

GROUP 40

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*See 00-93/22
for ABS Diagnostics*

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To read the electric diagrams related to:

- INJECTION L-JETRONIC refer to: Group 00.
- ABS SYSTEM refer to: Group 00.
- IGNITION, STARTING, CHARGING SYSTEM refer to: Group 05.
- [- CRUISE CONTROL refer to: Group 43

STANDARDS AND PRECAUTIONS FOR OPERATIONS ON ELECTRICAL SYSTEM

The electronic control units installed on the vehicle are built with components capable of withstanding the electrical loads of the system to which they belong. Consequently every system modification may directly damage the control units. For example, the control unit may supply the relay coil, but it

certainly cannot directly supply the electrical loads connected to the relay's contact. Great care must also be taken over the electrical power supply polarities, in that the control unit protection is included in the power supply system and not on the input and output connections. When installing electrical accessories

on the car, it is always advisable to disconnect the electrical control units during installation and to carry out the functional checks on the accessories with the control units disconnected. In any case, it is highly inadvisable to connect from the control units wiring.

The following precautions must therefore be taken:

- Do not connect the control unit output directly to the load.
 - Under no circumstances operate directly on devices with wires connected to "positive" or to "ground", without having previously disconnected the control unit.
 - Do not short-circuit the system sensors, except when this is allowed or specified in the "Workshop Manual".
-

The possible consequences of operating on the systems must always be anticipated to avoid the

risk of damage. Whenever not all the technical data of the components concerned is perfectly known,

operations should be avoided altogether.

HOW TO READ THE WIRING DIAGRAM

WARNING:

Before starting the operations, make sure that the ignition key is in the "ST" position, and the battery ground cable disconnected.

For detection of failures present in the electric circuits, the following types of diagrams are available.

POWER SUPPLY DISTRIBUTION DIAGRAM

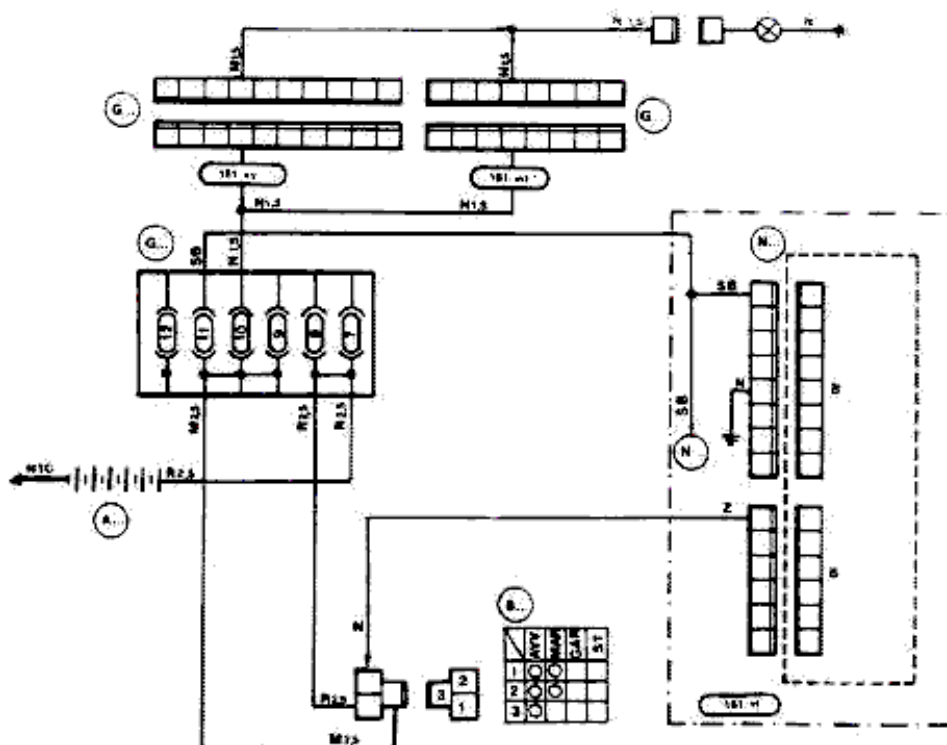
This type of diagram is helpful in the identification of specific troubles related to the part of electric diagrams concerning supply; e.g.: the windshield wiper fails to operate. A first check shows that the instrument supply is efficient.

From the distribution diagram, it can be noted that both instrument and windshield wiper are supplied via ignition switch and fusebox, it can therefore be deduced that the ignition switch operates correctly and there are no defects along the wiring between battery and switch itself. The failure must then be due either to fusebox (see: Fuses - Services Protected by Fuses) or to the parts of the electric system, that are downstream of this component that is, in the wiring, in the windshield wiper or in the ground connection. For fault identification, refer then to the windshield wiper wiring diagram.

WIRING DIAGRAM

For each load, the diagram allows the following to be identified: the type and number of connectors, the components, the terminal positions inside the connectors, color coding of wires and connector codes. In addition, for those cases where the different car versions involve variations of the electric diagram, the wiring diagram sets in evidence each variation by appropriately dividing the part of the circuit concerned.

SYMBOLS



COMPONENTS IDENTIFICATION

In the wiring diagrams, each component is identified by a reference designation composed of a letter and a number (e.g. **E7**). The letter identifies the component type, according to the following symbols:

- A Start - recharge
- B Manual electric controls
- C Board instruments
- D Lamp indicators
- E Outside lights
- F Inside lights
- G Fusebox - connector grounds
- H Switches
- I Relays
- L Transmitters
- M Electromagnets - solenoid valves
- N Electronic devices - intermittences - timers
- O Ancillary equipment
- P Motors
- Q Air ventilation - conditioning
- R Safety devices
- S Electronic injection

The reference designation can be followed by a capital or small letter:

- the capital letter (e.g. **G95_Q**) identifies only the fuse box connectors
- the small letter (e.g. **G46_B**) identifies the connectors having same reference number but different functions.

To identify each component, refer to "Key to Wiring Diagrams".

Variations

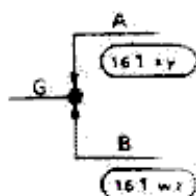
Each wiring diagram is applicable for several models of the **YR milano** range.

Any variation between each model, is emphasized by the following symbols:

- the chain line, on wiring diagram, delimits those areas containing the specific variations for the models indicated with "161.xy".



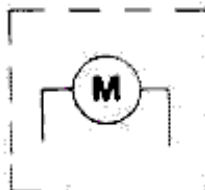
- the connection identifies two wiring variations, which are present alternatively and connected to the same point. The wiring variations refer to the models indicated with the symbols "161.xy" and "161.wz" respectively.



The models of the **YR milano** range can be identified in the following table:

- a. for **YR**:
 - 161.14 **milano** Argento
 - 161.16 **milano** Oro
 - 161.36 **milano** Pistino
- b. for **YR**:
 - 161.24 **milano** Verde
 - 161.38 **Automatic**
 - Optionals **Transmission**
 - Also 161.40
 - 161.42

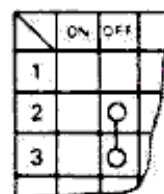
The components mounted upon request are enclosed by a dash line.



Switches

These are shown in a table.

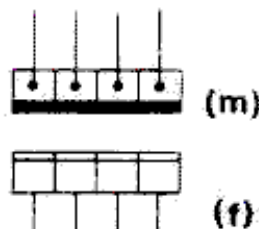
The table simulates the switch and shows, in the horizontal plane, the positions of the control or switch to be operated and, in the vertical plane, the terminals between which the continuity is generated.



In the example below, the continuity is present between terminals 2 and 3, with the control set to position OFF.

Connectors

The figure shows the type of diagram used to identify the two connectors related to each junction: for the male connector diagram (m) is applicable; for the female connector, diagram (f) is applicable.



Cables

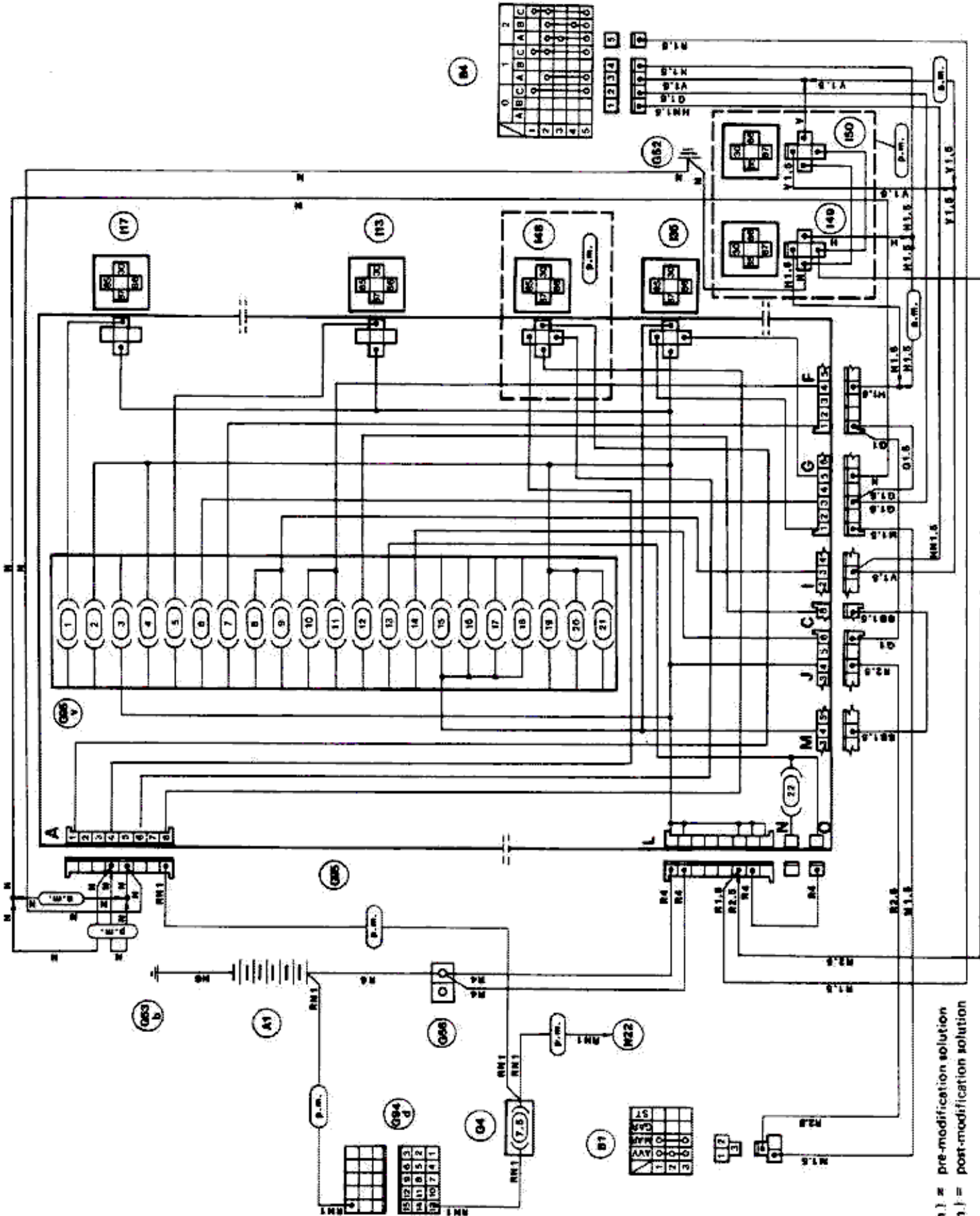
The indication referring to both color and section of cables, is provided near the end of each cable.

a. Cable colors

- A Light blue
- AB Light blue - white
- AG Light blue - yellow
- AN Light blue - black
- AR Light blue - red
- B White

POWER SUPPLY DISTRIBUTION

POWER SUPPLY DISTRIBUTION DIAGRAM



(a.m.) = pre-modification solution
 (p.m.) = post-modification solution

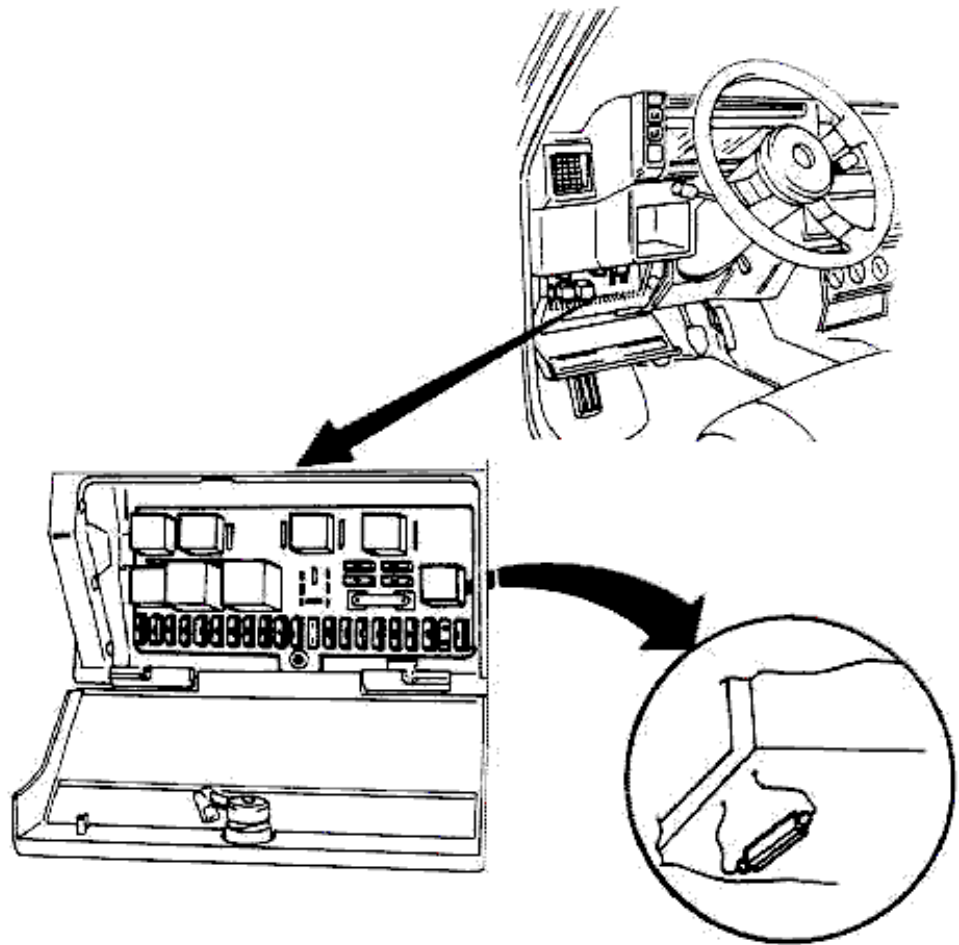
FUSES

CAUTION:

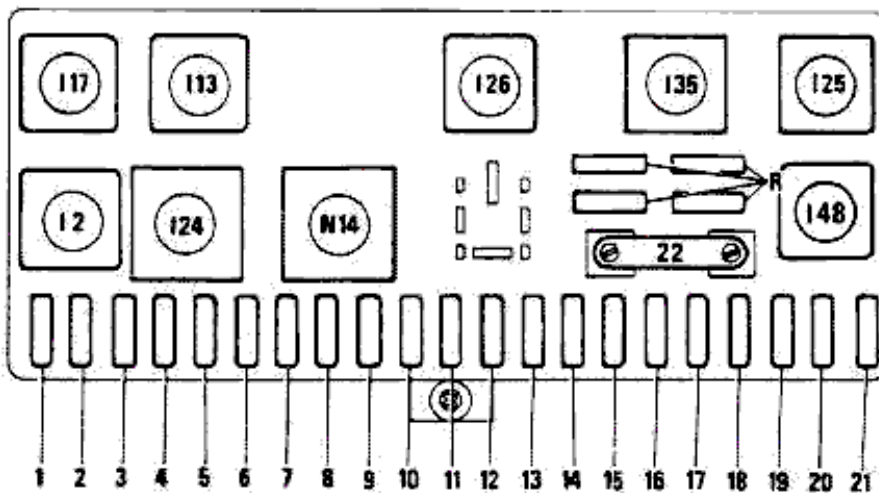
- a. Should a fuse blow, before replacing it, make sure that the cause of failure has been removed.
- b. Use only fuses having same amperage. Never use fuses having amperage greater than that specified.
- c. Insert the fuse correctly into its housing.

LOCATION

The fuses are arranged on the central fusebox, located in the special drawer of dashboard, on the left of the steering wheel column. In a few models, free fuses are inserted in the electric system for particular loads. Their location and the protected services, are described in the chapters related to the specific loads. On the fusebox, four housings have been obtained for the spare fuses.



SERVICES PROTECTED BY FUSES



- R. Spare fuses
- 12 Heated rear window relay
- 113 Rear power window relay
- 117 Foglight relay
- 124 Direction/Hazard lights relay
- 125 Rear fog light relay
- 126 Roof lamp relay
- 135 Key-operated supply relay
- N14 Windshield wiper intermittence
- 148 ALFA ROMEO Control and instrument panel key-operated relay (post modification solution only)
- G4 Free fuse for 148 relay

ELECTRICAL SYSTEM

The following table specifies, for each model, the services which are protected by each fuse.

Table "Fuses"

Fuse Number	Services Protected	Ampere	Model		
			milano milano		
			ARGENTO	ORO	PLATINO VERDE
1	Fog light	15	X	X	X
2	Door lock	10	X	X	X
3	External rearview mirror heaters	7.5			X
4	Headlight washer	20	X	X	X
5	Rear power window	25	X	X	X
6	Seat back adjustment switches illumination Front left and rear right parking lights Sidemarker Rear power window switches illumination Rear cigar lighter lighting	7.5	X X X X X	X X X X X	X X X X X
7	Front right and rear left parking lights Sidemarker Engine compartment lamp Trunk lamp Licence plate lamp	7.5	X X X X X	X X X X X	X X X X X
8	Left full beam Cluster full beam warning lamp	7.5	X X	X X	X X
9	Right full beam	7.5	X	X	X
10	Right low beam	7.5	X	X	X
11	Left low beam	7.5	X	X	X
12	Electric fuel pump +15 combined relay coil electronic injection-ignition unit	10	X X	X	X
13	Free	7.5			
14	Heater or air conditioner lighting Warning lamp panel lighting ALFA ROMEO control display lighting Car radio lighting Instrumentation lighting Switch lighting Front cigar lighter	15	X X X X X X X	X X X X X X X	X X X X X X X

ELECTRICAL SYSTEM

Table "Fuses" (continued)

Fuse Number	Service Protected	Ampere	Model		
			milano milano		
			ARGENTO	ORO	PLATINO VERDE
15	Windshield wiper motor Windshield washer pump +15 Instrumentation warning lamps +15 Heated rear window - Hazard lights switch +15 Check control unit +15 Warning lamp panel +15 Seat belt control unit	15	X X X X X X X	X X X X X X X	X X X X X X X
16	Seat back adjustment motors External rearview mirror adjustment motors Heater +15 Car radio +15 Mirror switch	25	X X X X	X X X X X	X X X X X
17	+15 Imperial roof switches Rear cigar lighter Backup lights	20	X X X	X X X	X X X
18	Front power windows	25	X	X	X
19	Floor lighting Passenger compartment roof lamp - spot light Clock Vanity mirror lighting Car radio - Electric aerial Direction indicators Steering lock microswitch	15	X X X X X X X	X X X X X X X	X X X X X X X
20	+30 Electronic injection control unit Electric fuel pump	15	X	X	X
21	Stop lights Backup lights Front cigar lighter Fusebox lighting	15	X X X X	X X X X	X X X X
22	Heated rear window Differentiated heated rear window	30	X	X	X

Free fuses

Fuse	Service Protected	Ampere	Model
G4	Wheel anti-lock braking system (ABS) MARK II (1)		
G125	Auxiliary ABS system relay	3A	
G125	ABS system	50A	
G126	Relay for ABS system control unit	30A	All models, if ABS system is present
G126	ABS system brake fluid pump relay	30A	
G4	ALFA ROMEO Control supply relay	7.5A	All models, post modification solution only

(1) For the location of the free fuses of the ABS system refer to "Wiring - MARK II Wheel Anti-lock Braking System (ABS) Wiring"

ELECTROMECHANIC DEVICES AND INTERMITTENCES

RELAYS

LOCATION

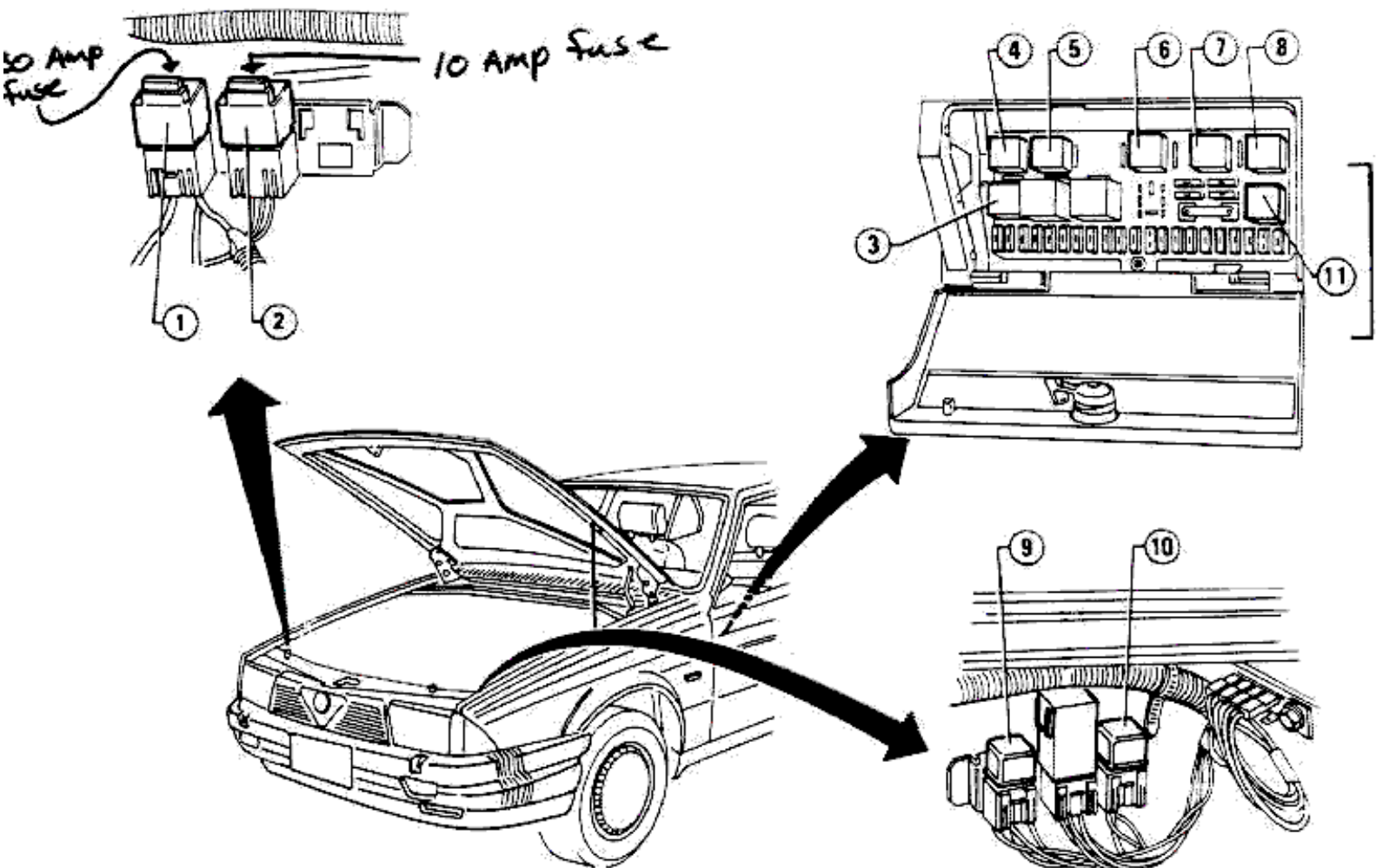
- The relays are positioned as follows:
- on the central fusebox
 - on the boards housed in the front right and left corners of engine compartment.

To locate each device, refer to the following figure, with the aid of the "Relays" table.

CHECK


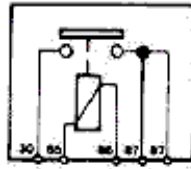
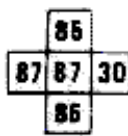
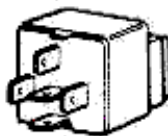
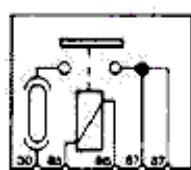
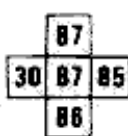

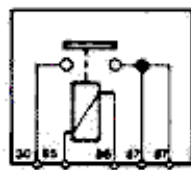
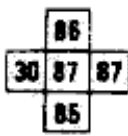

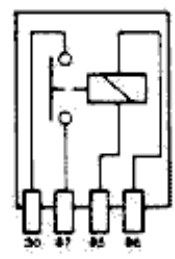
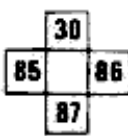

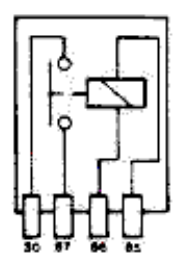
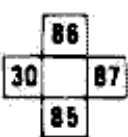
Check that relays are in conformity with the type shown in the "Relays" table.

Location



ELECTRICAL SYSTEM


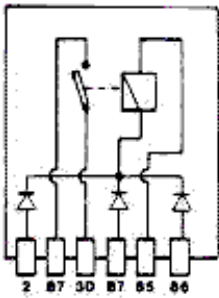


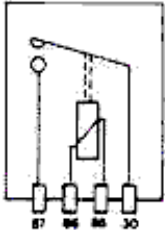
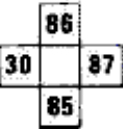

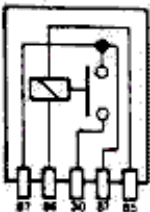
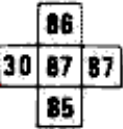

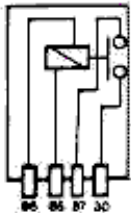
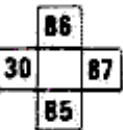

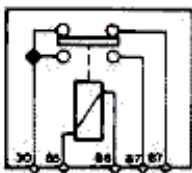
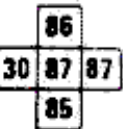
"Relays" Table

Component			Vehicle	External view	Internal diagram	Symbols
Name	Ref. Des.	Posit.				
Horns relay	I 3	10	All vehicles			
Engine cooling fan relay	I 1	1	All vehicles			
Relay for compressor electromagnetic coupling	Q 17	2	Vehicles with air conditioner			
Key-operated supply relay	I 35	7	All vehicles			
Foglight relay	I 17	4	All vehicles			
ALFA ROMEO Control and instrument panel key-operated relay	I 48	11 (1)				

(1) Post modification solution only.


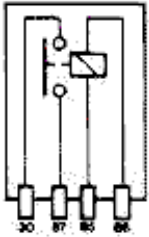
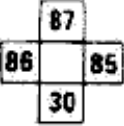

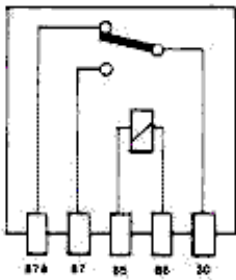
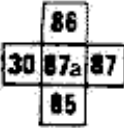

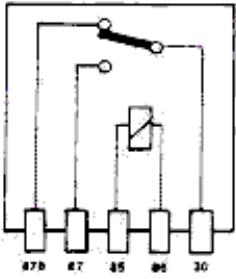


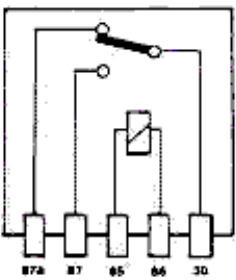
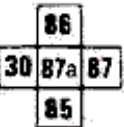

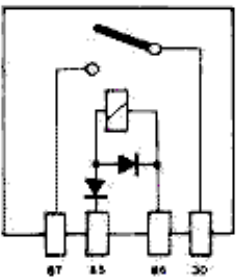
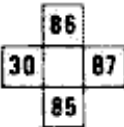
ELECTRICAL SYSTEM

"Relays" Table (continued)

Component			Vehicle	External view	Internal diagram	Symbols
Name	Ref. Des.	Posit.				
Rear fog light relay	1 25	8	All vehicles			
Heated rear window relay	1 2		All vehicles			
Passenger compartment roof lamp relay	1 26	6	All vehicles			
Rear power window relay	1 13	5	All vehicles			
Brake fluid level switch relay	1 14	9	All vehicles			

ELECTRICAL SYSTEM


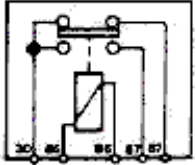

"Relays" Table (continued)

Component			Vehicle	External view	Internal diagram	Symbols
Name	Ref. Des.	Posit.				
External mirror defrost relay	145	3	ORC PLATINO			
Relay for ABS system control unit	137	(*)	Vehicles with wheel anti-lock system (ABS) MARK II			
Auxiliary ABS system relay	138	(*)	Vehicles with wheel anti-lock system (ABS) MARK II			
Brake fluid level warning lamp relay	139	(*)	Vehicles with wheel anti-lock system (ABS) MARK II			
ABS system brake fluid pump relay	140	(*)	Vehicles with wheel anti-lock system (ABS) MARK II			

(*) For the location of this component refer to "Wiring - MARK II wheel Antilock Braking System (ABS)Wiring"

ELECTRICAL SYSTEM

"Relays" Table (continued)

Component			Vehicle	External view	Internal diagram	Symbols
Name	Ref. Des.	Posit.				
Cruise Control "off/resume" switch auxiliary relay	159	(**)	Vehicles with Cruise Control			

(**) For the location of this component refer to "Electronic Devices - Cruise Control".

TIMERS AND INTERMITTENCES

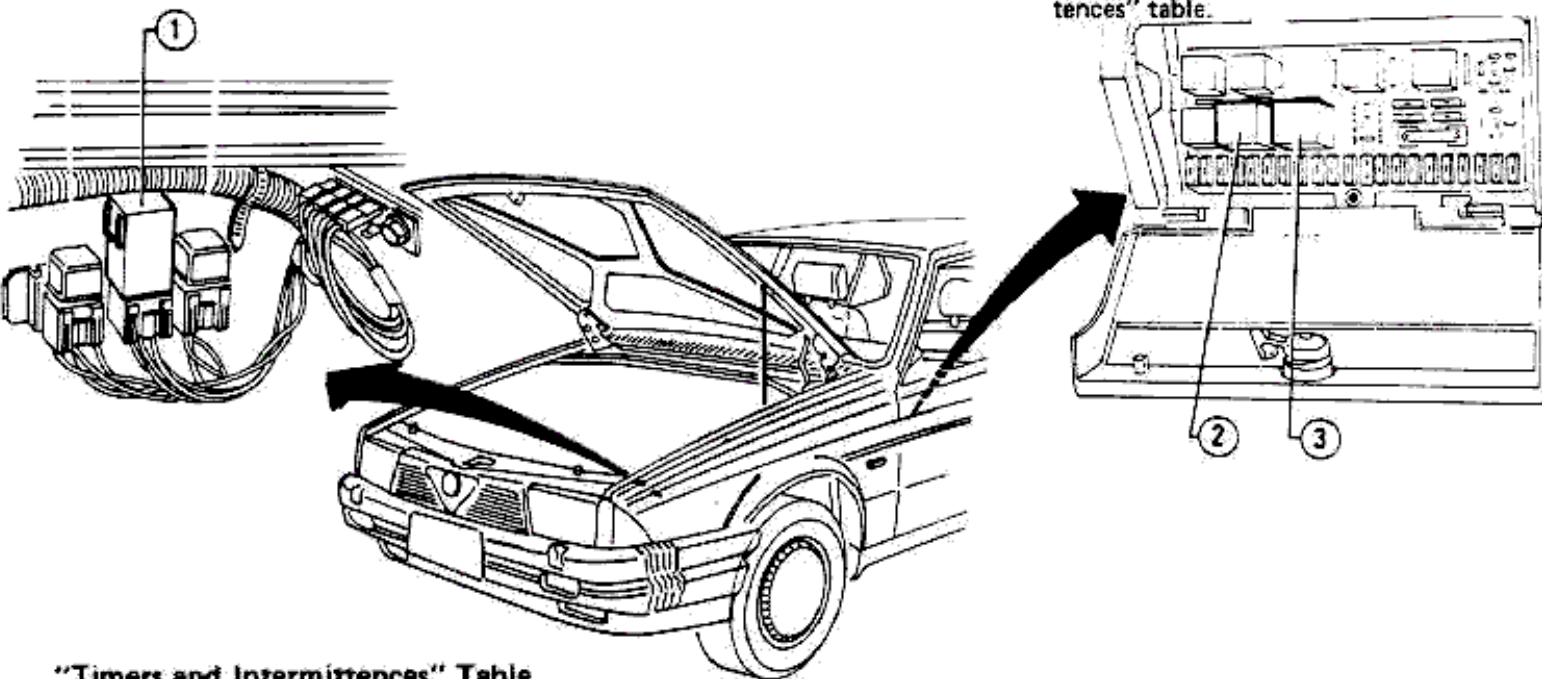
LOCATION

Timers and intermittences are located on the central fusebox. To locate the various devices, refer to

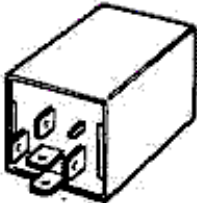
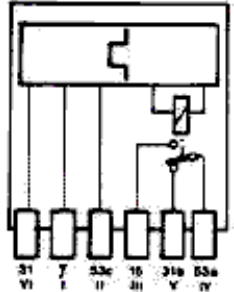
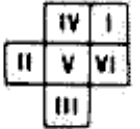
the following figure with the aid of the "Timers and Intermittences" table.

CHECK

Check that timers and intermittences are in accordance with the type shown in the "Timers and Intermittences" table.



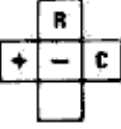
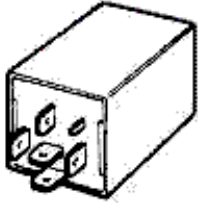
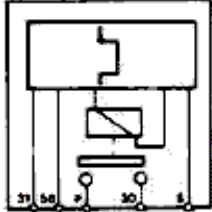



"Timers and Intermittences" Table

Component			Vehicle	External view	Internal diagram	Symbols
Name	Ref. Des.	Posit.				
Electronic windshield wiper intermittence	N 14	3	All vehicles			

ELECTRICAL SYSTEM

"Timers and Intermittences" Table (continued)

Component			Vehicle	External view	Internal diagram	Symbols
Name	Ref. Des.	Posit.				
Direction/hazard lights intermittence	I 24	2	All vehicles			
Headlamp wiper timer	N 12	1	All vehicles			

LIGHTING SYSTEM

WARNING:

Before starting the operations on the lighting system, make sure that the ignition key is in the "ST" position, and the battery ground cable disconnected.

LAMPS

TYPES OF LAMPS

CAUTION:

When replacing the lamps, use the genuine type supplied by ALFA ROMEO.

The lamps used for the vehicle are of five types; remove them following the procedure below.

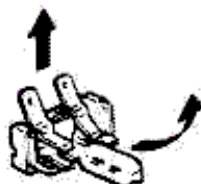
1. Halogen lamp - type A

To remove it from lampholder, detach the connector, remove the retaining spring and withdraw it taking the utmost care not to touch it with bare hands.



2. Halogen lamp - type A'

It is secured to lampholder by two contact clips and two fixed points. Withdraw it from lampholder by removing the two contact clips and release it from the fixed points. Take the utmost care not to touch it with bare hands.



3. Bayonet lamp - type B

To remove it from lampholder, press the bulb, rotate it counterclockwise, then withdraw it.



4. Cylindrical lamp - type C

To remove it from lampholder, release it from the contacts by pulling towards lampholder outside.



5. All-glass lamp - type D

It is pressed in the lampholder, remove it by pulling the bulb towards lampholder outside.



Install the lamps by reversing the order of removal.

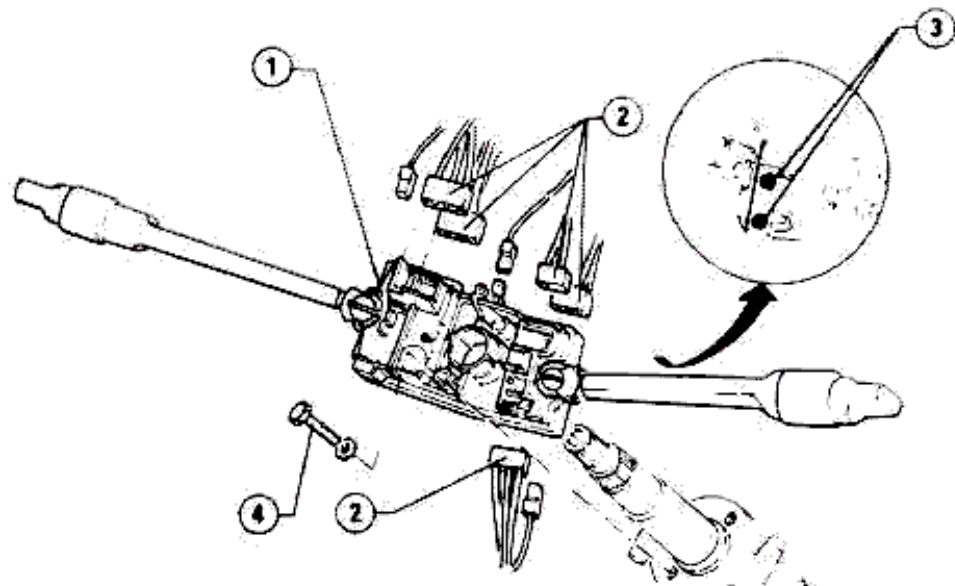
ELECTRICAL SYSTEM

"Lamps" Table

The lamp features (type and electric power absorbed) are listed in the following table.

Lamps	Electric Power (W)	Type
Front combination lamps: - Low/full beam (halogen lamp) - Front parking light - Front direction indicator	45/65 5/21 21	A D B
Fog lamp	55	A
Sidemarkers	3	D
Rear combination lamps - Rear direction indicator - Rear parking light - Stop light - Rear fog light	21 5 21 21	B B B B
Backup lamp	21	B
Licence plate lamp	5	B
Cluster warning lamps	1,2	D
Cluster lighting lamps	1,2	D
Third stop light	21	B
Roof lamps	10	C
Spot lights	5	D
Cigar lighter lamps	1,2	D
Floor lighting lamp	5	D
Engine compartment lamp	5	C
Trunk lamp	5	C
ALFA ROMEO Control lighting lamps	1,2	D

COMBINATION SWITCH UNIT



- 1 Combination switch
- 2 Connectors
- 3 Nuts
- 4 Screw

REMOVAL

1. Remove the steering wheel.
2. Unscrew the six securing screws and remove both lower and upper sections of steering column.
3. With reference to the exploded view, detach connectors (2) of the combination switch unit.
4. Remove the combination switch unit unscrewing the two screws (4) securing it to the steering column. If necessary, disassemble the combination switch and separate the two levers by operating on nuts (3).

Perform the following to ensure the correct automatic return of direction indicators.

- Lubricate the release ring in the coupling area with the combination grease specified.

MASCHERPA - Elettrofube 2G

- Tighten the nut securing the steering wheel to the specified torque.

T : Tightening torque
 Nut securing steering wheel
 28 to 32 N·m
 (19.16 to 23.57 ft·lb)
 2.85 to 3.26 kg·m)

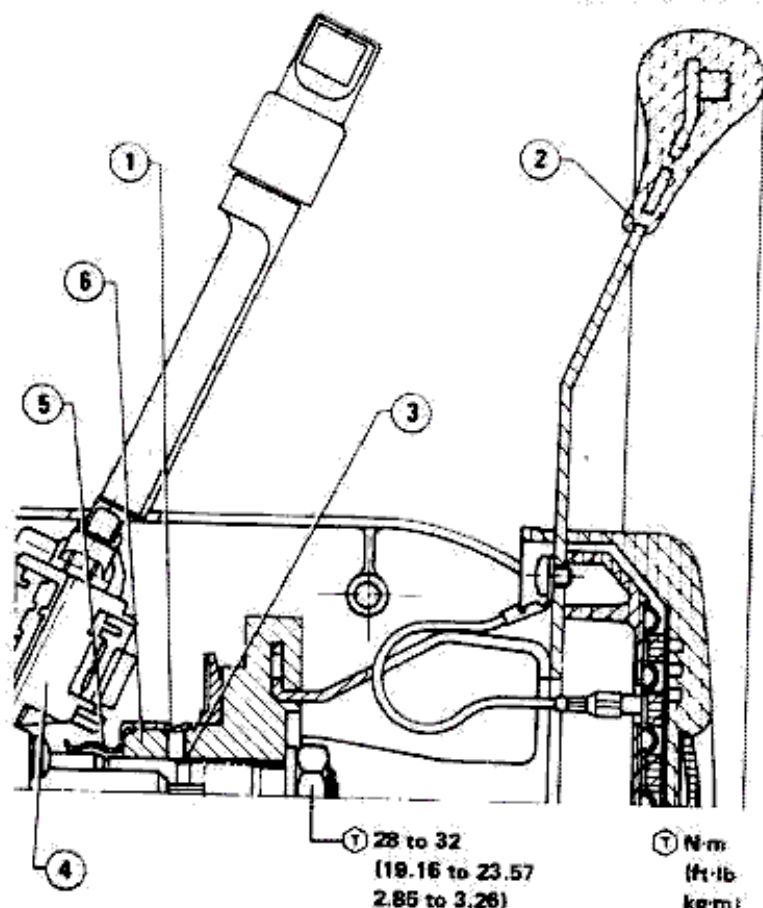
CHECK

Check for good conditions of wiring. Ensure proper functioning of combination switch by checking, with a tester, that continuity between terminals complies with the following tables.

INSTALLATION

Carry out installation by reversing the order of removal, complying with the following.

- Adjust the drive position of combination switch. To do this secure drive clip of combination switch on hub aligning clip indentation with seat obtained on the hub.



- 1 Drive clip indentation
- 2 Steering wheel
- 3 Hub seat
- 4 Combination switch
- 5 Drive clip
- 6 Steering wheel hub

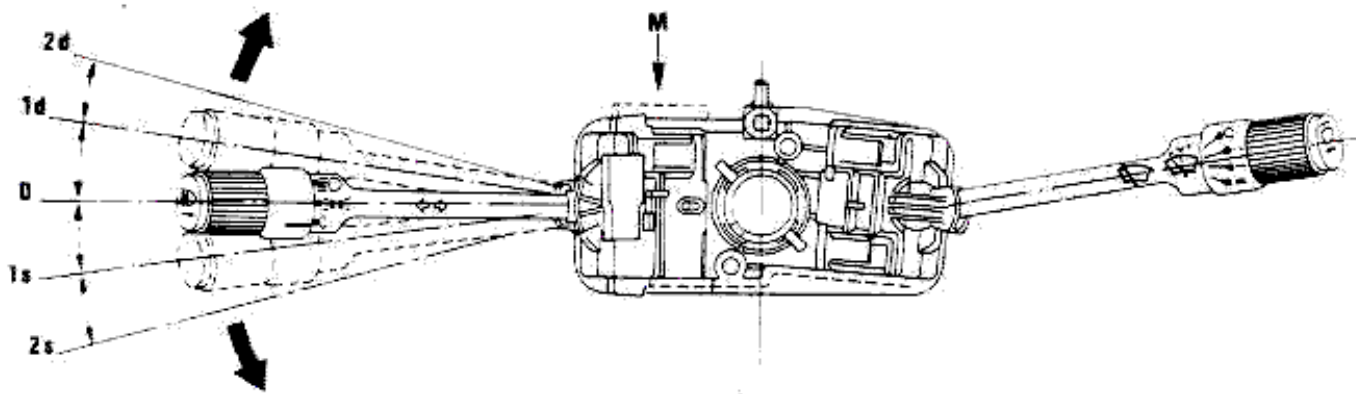
T 28 to 32
 (19.16 to 23.57
 2.85 to 3.26)

T N·m
 (ft·lb
 kg·m)

ELECTRICAL SYSTEM

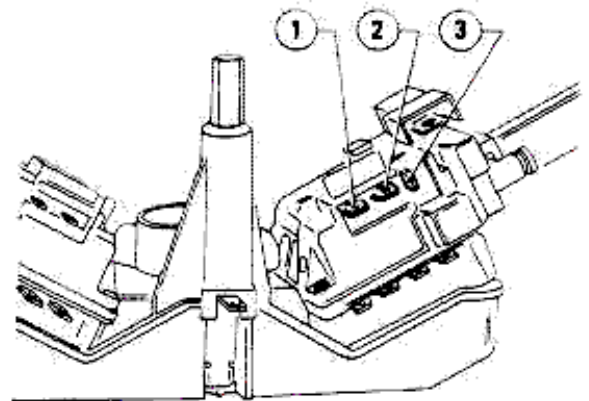
Direction indicators control

	Control	Position	Service enabled
Left lever	Movement parallel to steering wheel plane	2 d	– right direction fixed indicator with automatic release
		1 d	– right direction indicator for lane changing with automatic release
		0	– zero position
		1 s	– left direction indicator for lane changing with automatic release
		2 s	– left direction fixed indicator with automatic release



	1d	2d	1s	2s
1	○	○		
2	○	○	○	○
3			○	○

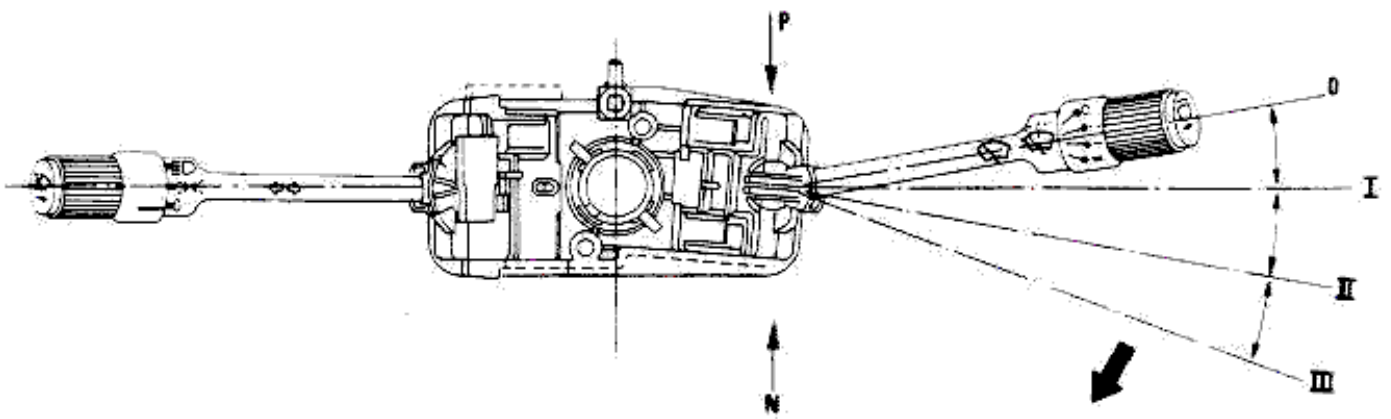
View from M



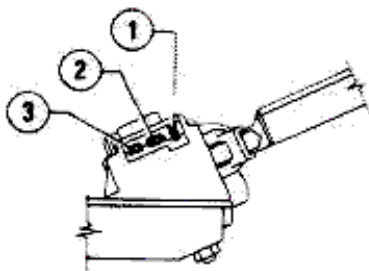
Windshield wiper control

	Control	Position	Service enabled
Right lever	Movement parallel to steering wheel plane	0	– zero position (OFF)
		1	– windshield wiper intermittence (INT)
		2	– windshield wiper 1st speed (1° V)
		3	– windshield wiper 2nd speed (2° V)

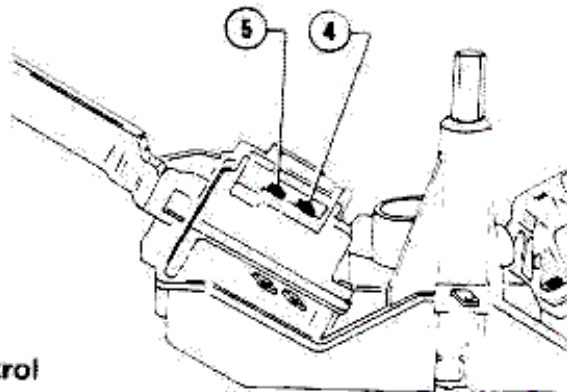
ELECTRICAL SYSTEM



View from N



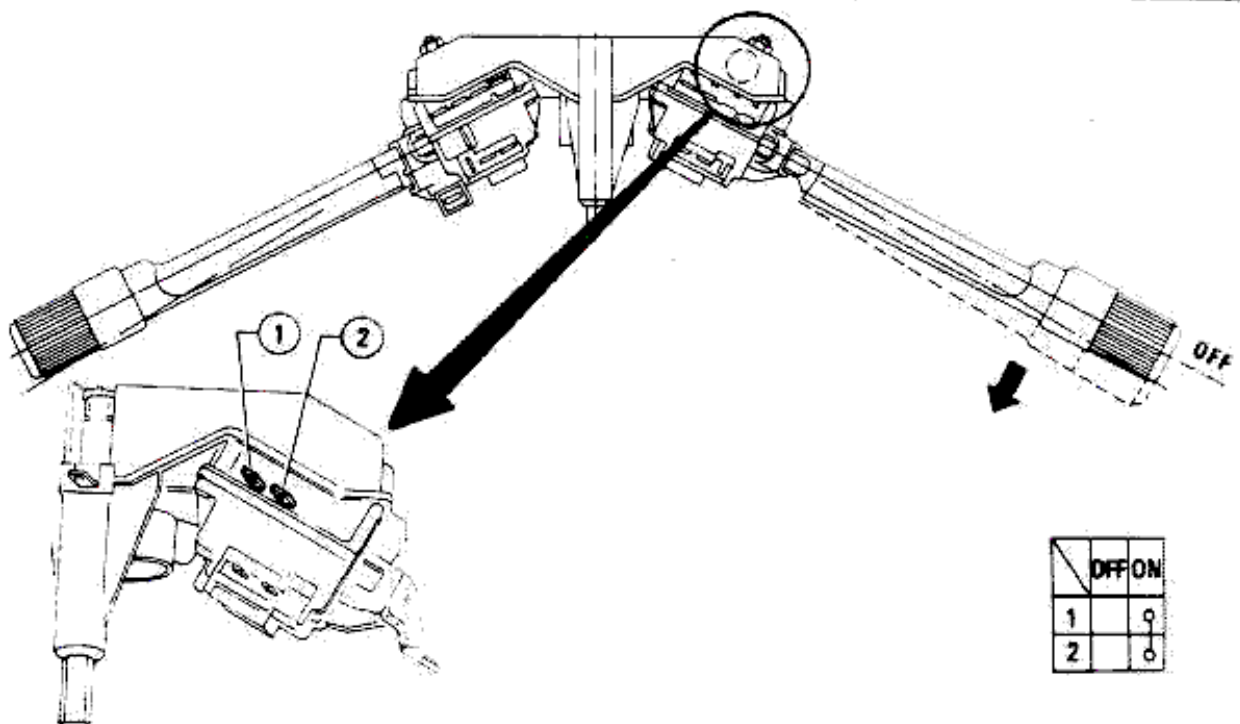
View from P



	OFF	I	II	III
1	○	○	○	
2	○	○		
3		○		
4			○	○
5		○	○	○

Windshield/headlamp washer control

Control	Position	Service enabled
Right lever	OFF ON	<ul style="list-style-type: none"> — zero position. — windshield washer with wiping stroke driven by control unit — windshield washer with wiping stroke driven by control unit (paired to rotation of the left lever knob to positions 1 and 2)

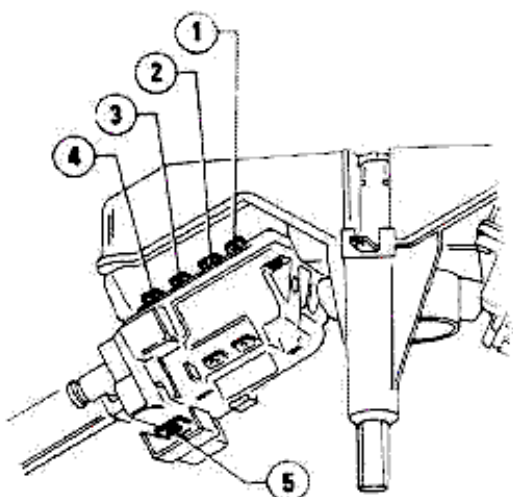
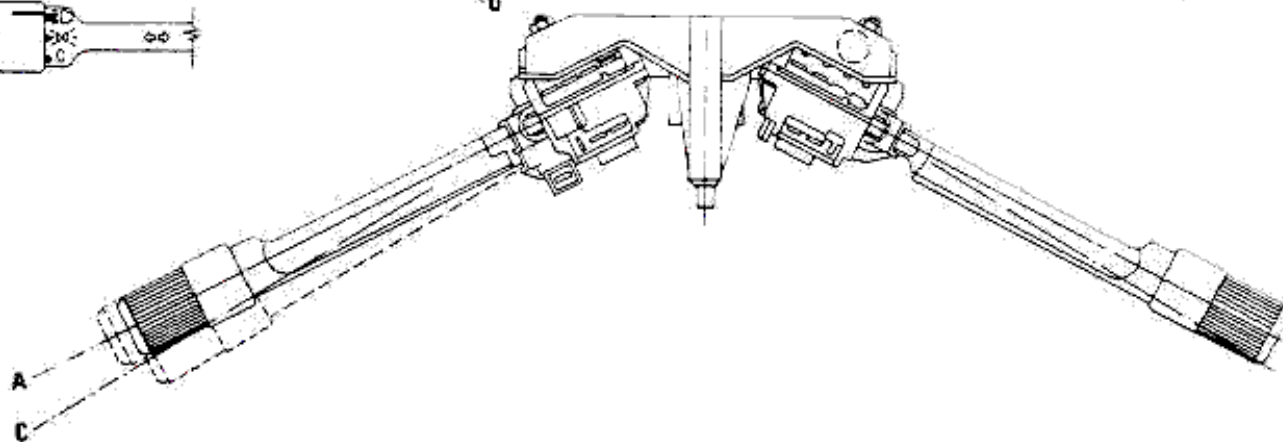
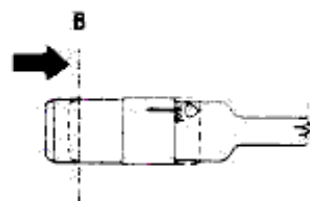
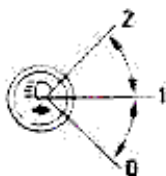
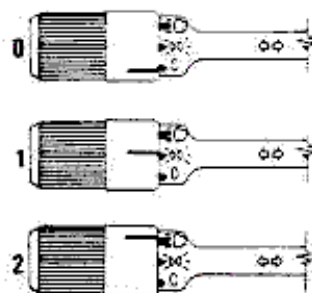


	OFF	ON
1		○
2		○

ELECTRICAL SYSTEM

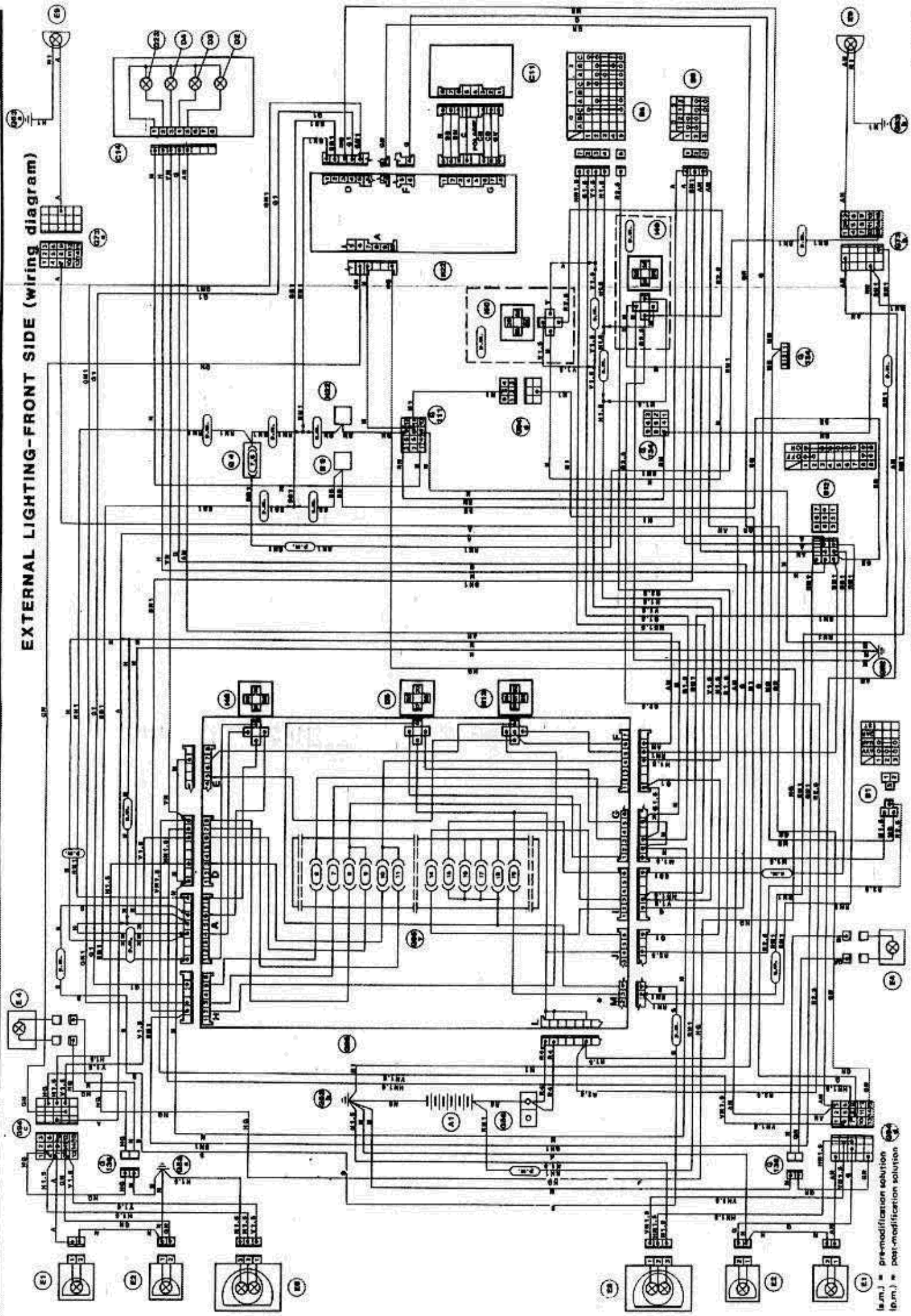
External lights control

	Control	Position	Service enabled
Left lever	Knob rotation	0	- zero position
		1	- parking lights - sidemarker
		2	- full beams fog light and rear fog light enabling
	Knob pressing in the arrow direction and knob releasing	B	- low beams (paired to rotation to position 2)
	Movement parallel to steering wheel axis	A C	- zero position - full beam flashing (paired to rotation to positions 0 and 1)



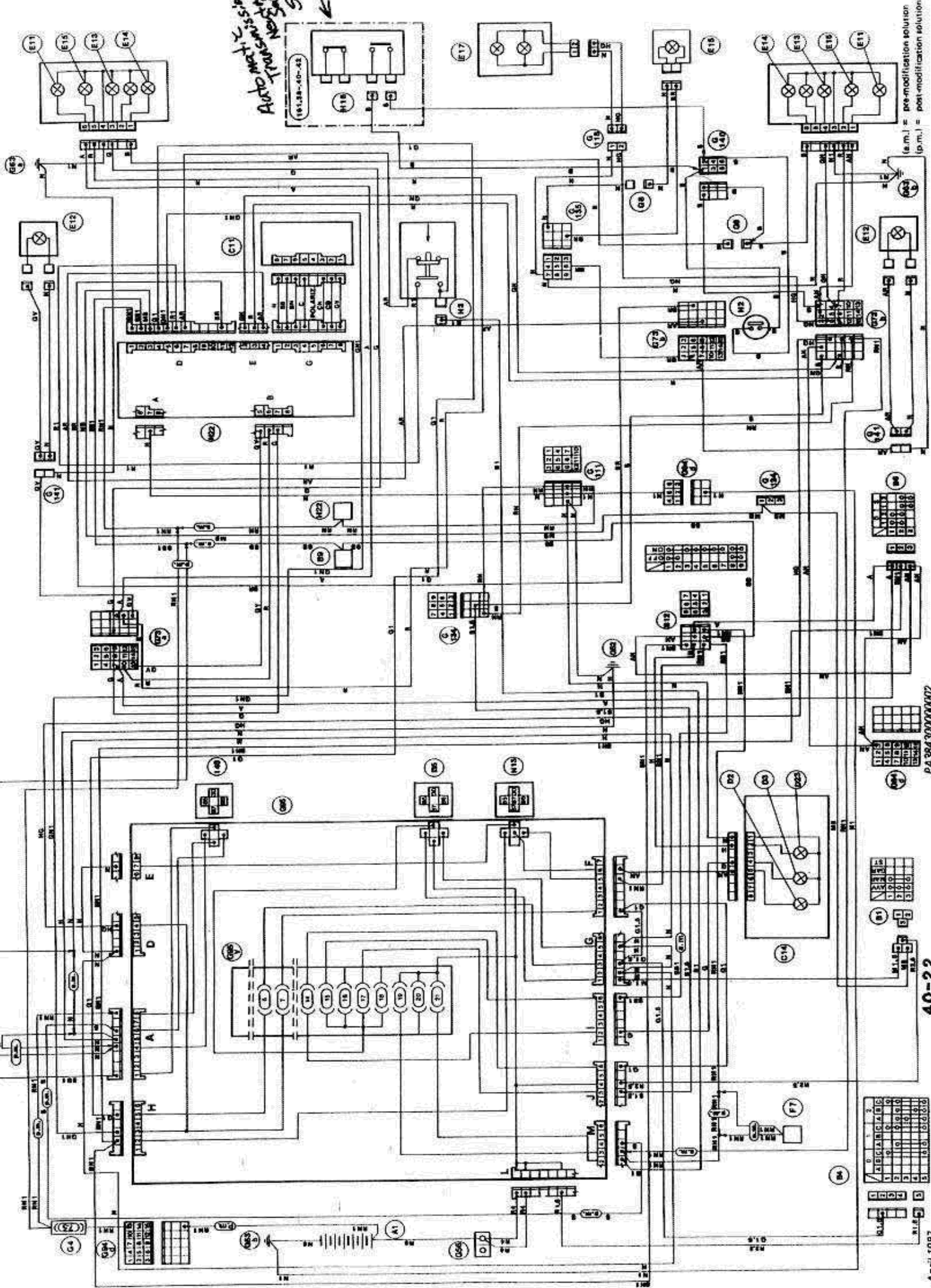
	0			1			2		
	A	B	C	A	B	C	A	B	C
1			○			○			○
2			○			○			○
3						○			○
4									○
5			○			○			○

EXTERNAL LIGHTING-FRONT SIDE (wiring diagram)



(s.m.) = pre-modification solution
 (p.m.) = post-modification solution

Auto Transfer Switch
100.33-10-42



(e.m.) = pre-modification solution
(p.m.) = post-modification solution

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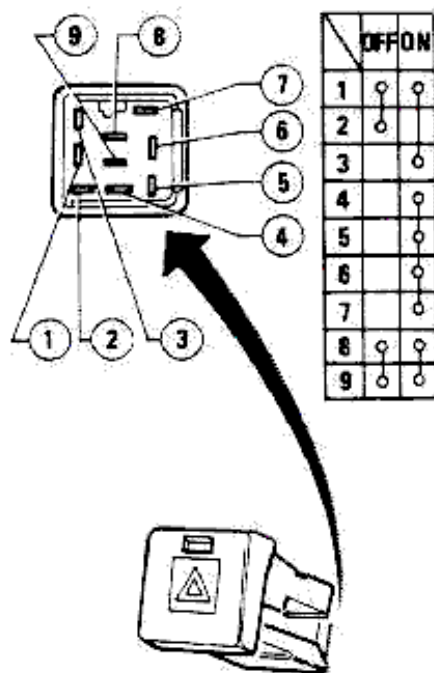
HEADLIGHT SWITCH

The parking lights/low beam/full beam switching, takes place through the knob of combination switch left lever (refer to: Combination Switch Unit).

DIRECTION INDICATOR SWITCH

The direction indicators are operated through the left lever of combination switch (refer to: Combination Switch Unit).

HAZARD LIGHT SWITCH



Location

The hazard lights switch is located on cluster left side.

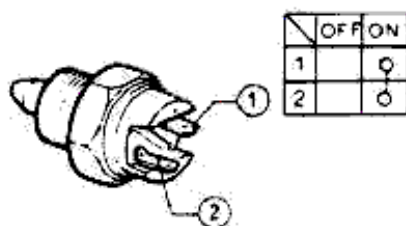
Check

Check the switch correct functioning ensuring that the continuity between terminals occurs as per the indications given in the table.

REPLACEMENT OF EXTERNAL LIGHTING WARNING LAMPS

To replace the warning lamps of parking lights, full beam headlights, direction indicators, hazard lights, refer to: Warning Lamp Panel.

BACKUP LIGHT SWITCH



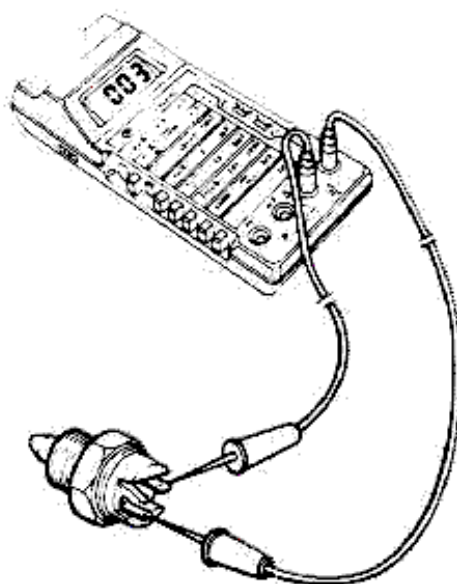
Location

It is mounted on the gearbox differential casing.

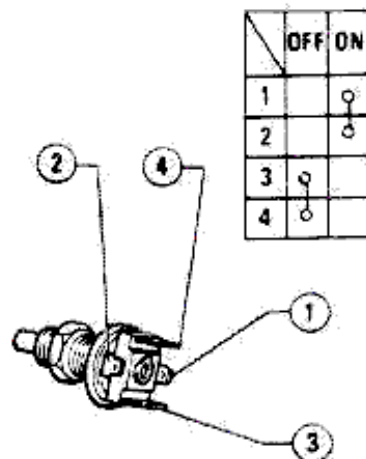
Check

Connect a tester to terminals of the backup light switch, and check the following resistance values.

When in the OFF position = ∞
 When in the ON position = 0Ω



STOP LIGHT SWITCH

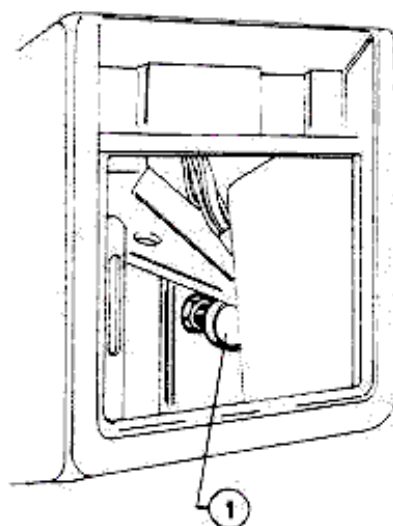


Location

The stop light switch is mounted on the special bracket on the steering column rear support.

Removal

1. Remove the door-lock control unit from its seat in the lower side of dashboard (underneath cluster).
2. Operating from the glove box opening, unscrew the plastic nut securing switch.



1. Stop light switch

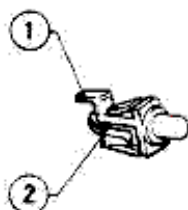
3. Withdraw switch from bracket, and detach wiring.
4. Carry out installation by reversing the order of removal.

Check

Check the switch correct functioning, ensuring that the electric continuity between terminals is as per the indications provided in the table:

PARKING BRAKE WARNING LAMP SWITCH

	OFF	ON
1		c
2		c



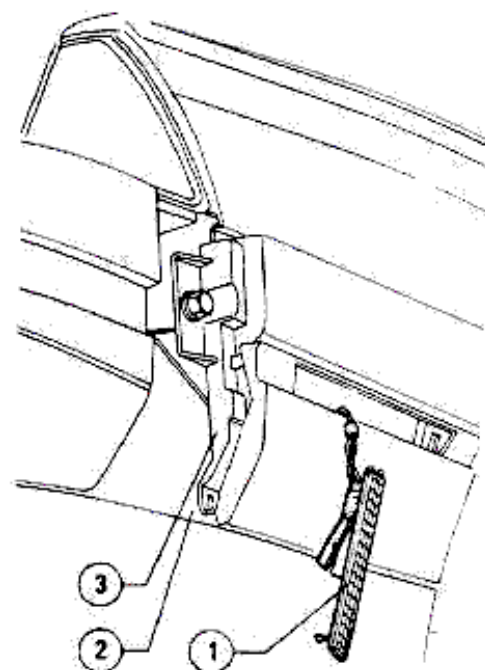
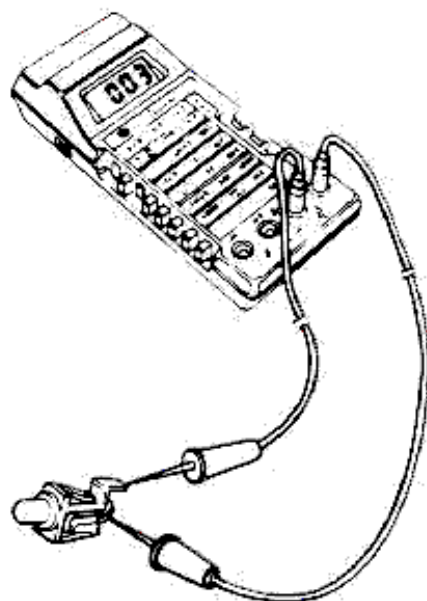
Location

It is mounted on the special bracket secured to the parking brake lever support.

Check

Connect a tester to the switch terminals and check the following resistance values:

When in the OFF position = ∞
 When in the ON position = 0Ω



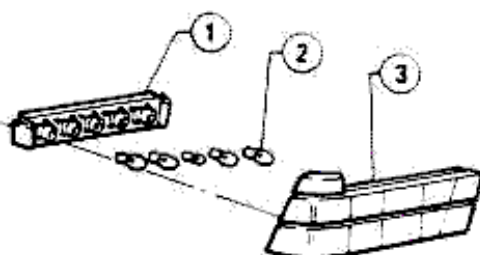
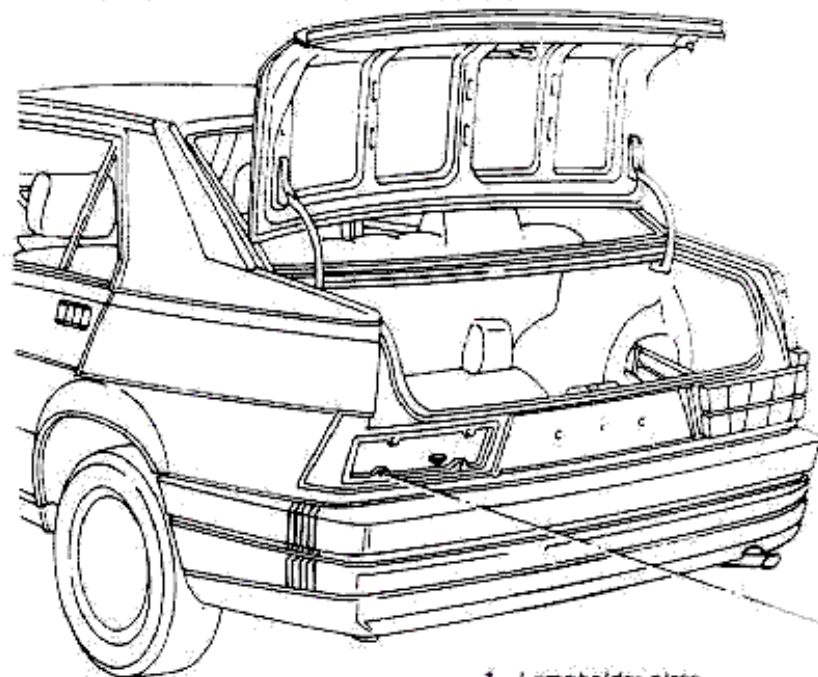
SIDEMARKER

REMOVAL

1. Operating from inside to outside, remove the sidemarker from its seat on the spoiler.
2. Remove rubber protection from its seat (3), and unhook bulb from transparent strip (1), then extract it from spoiler (2).
3. Carry out installation by reversing the order of removal.

- 1 Transparent strip
- 2 Spoiler
- 3 Rubber protection seat

REAR COMBINATION LAMPS



- 1 Lampholder plate
- 2 Lamp
- 3 Transparent strip

REMOVAL AND INSTALLATION

1. Operating from inside the trunk, remove the rear trimming.
2. Detach wiring (2) by pulling lever (3) forward.
3. Unscrew the five nuts securing combination lamp (1) to body, and remove.

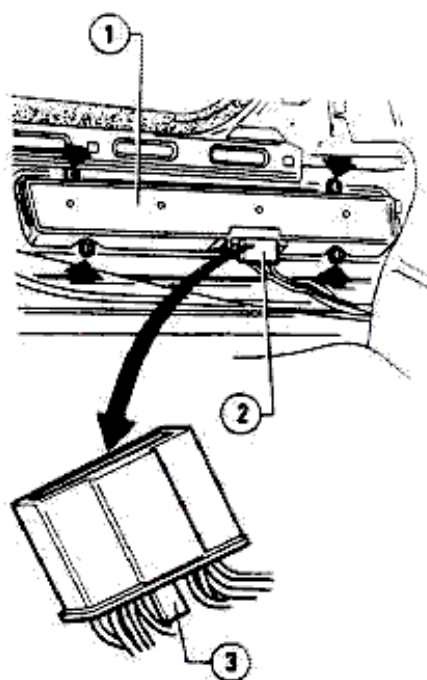
4. Install the combination lamp by reversing the order of removal.

4. Replace the lamp and install the lampholder plate.

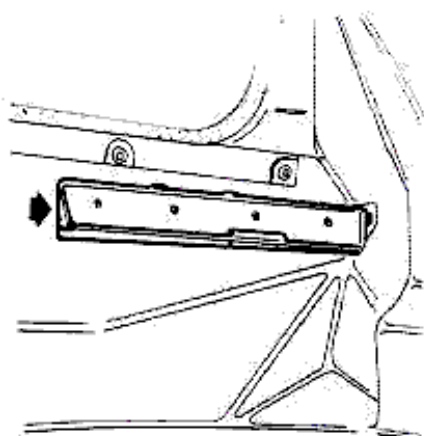
For the identification of lamps location, refer to the diagram below. The diagram refers to the left combination lamp; the right combination lamp is symmetrical to the left one.

LAMP REPLACEMENT

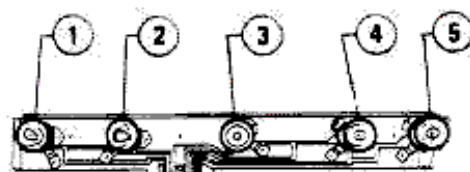
1. Open the trunk.
2. Operating from inside the trunk, slowly press the lampholder plate, pull, and remove it.



- 1 Combination lamp
- 2 Wiring
- 3 Lever

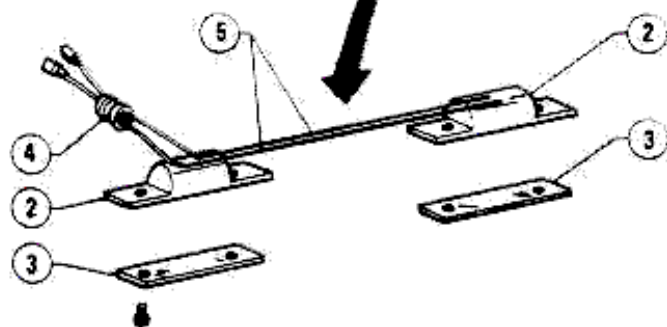
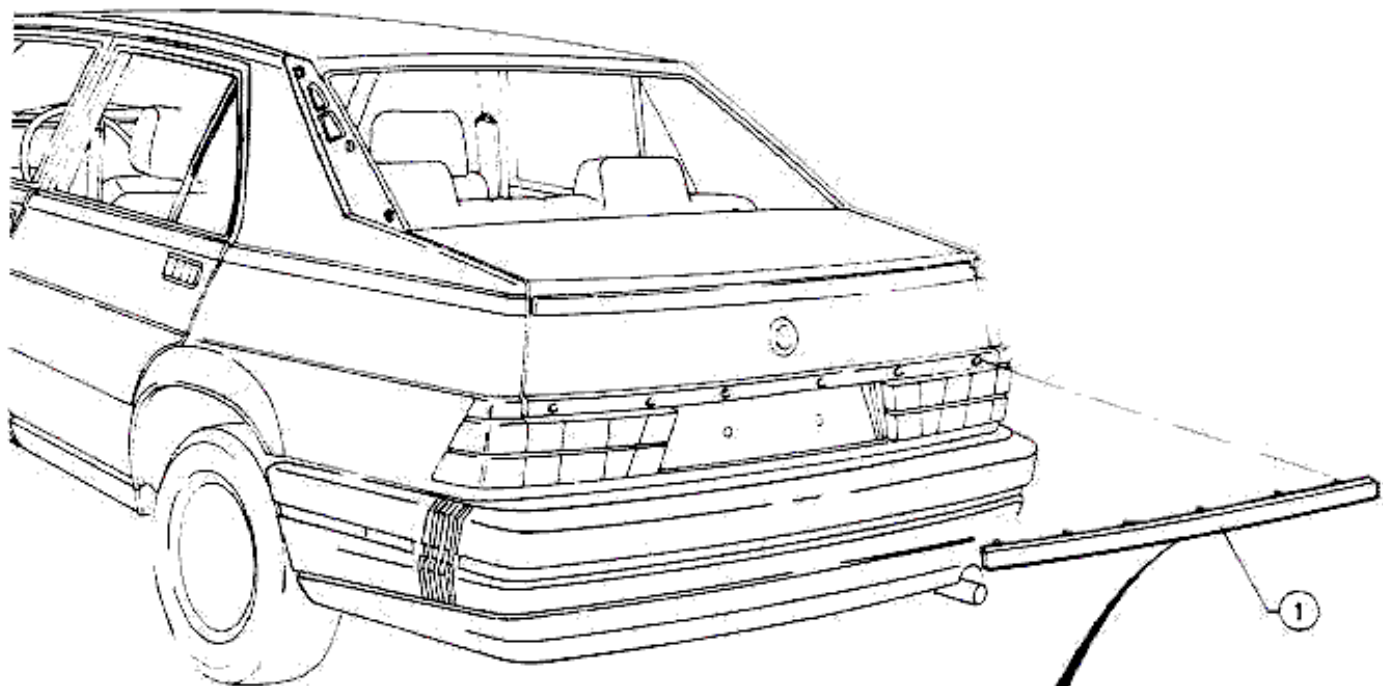


3. Press the bulb of the lamp to be replaced, rotate lamp and remove it.



- 1 Direction indicators
- 2 Stop light
- 3 Parking light
- 4 Rear fog light
- 5 Backup light

REAR REFRACTIVE STRIP AND LICENCE PLATE LIGHTS

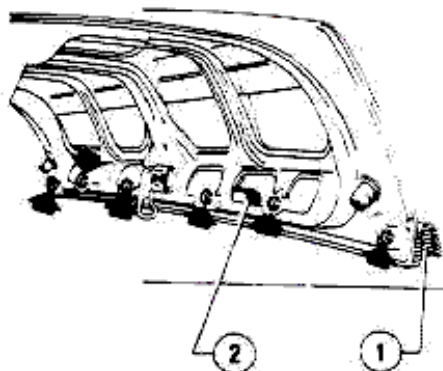


- 1 Reflective strip
- 2 Lampholder
- 3 Transparent cover
- 4 Rubber fairlead
- 5 Contacts

REMOVAL AND INSTALLATION OF REAR REFRACTIVE STRIP

1. Open the trunk, disconnect wiring (2), and unscrew the six nuts securing strip (1) to trunk lid. Remove the strip.

2. Install the reflective strip by reversing the order of removal.



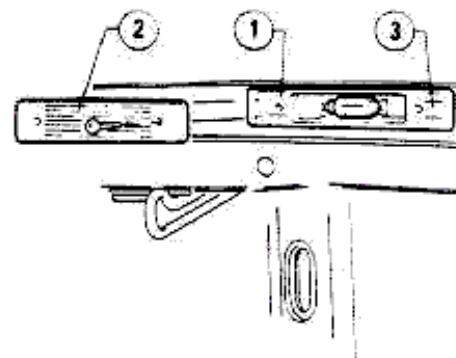
- 1 Reflective strip
- 2 Wiring

REPLACEMENT OF LICENCE PLATE LIGHTS

1. Unscrew the two screws securing each transparent cover (2) and remove covers.

2. Withdraw the bulb and replace it.

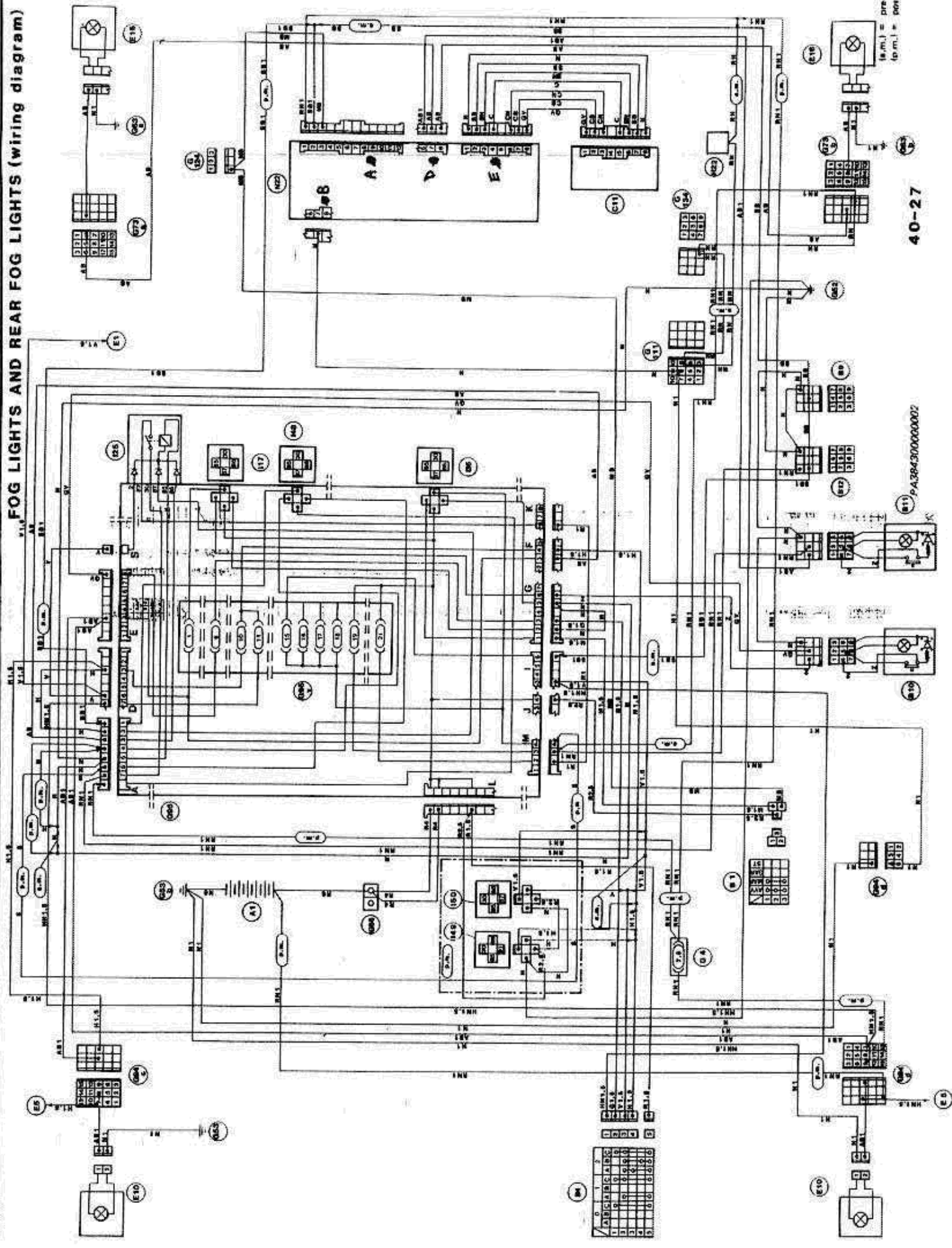
3. If required, to remove the lampholders first disconnect the wiring, then operate with a screwdriver on clip (3), and withdraw lampholders (1).



- 1 Lampholder
- 2 Transparent cover
- 3 Clip

4. Install lampholder by reversing the order of removal.

FOG LIGHTS AND REAR FOG LIGHTS (wiring diagram)



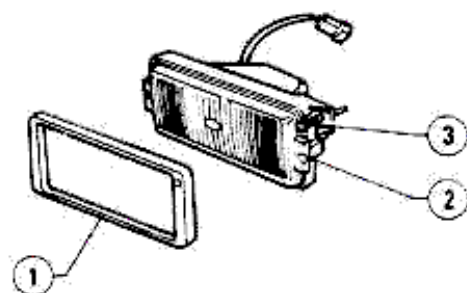
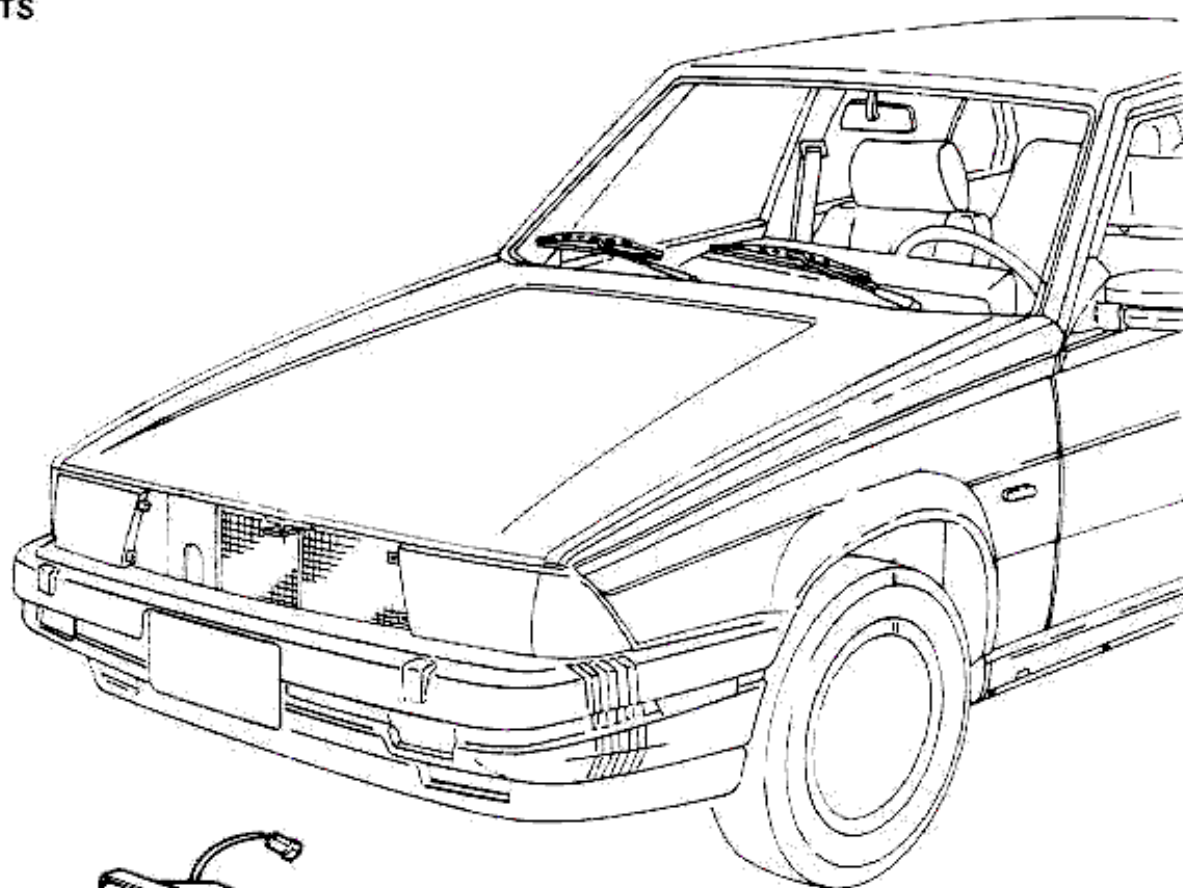
pre-modification solution
 (s.m.) =
 post-modification solution
 (p.m.) =

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FOGLIGHTS

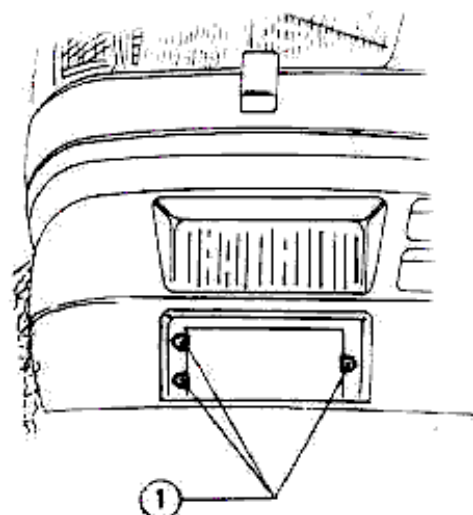


- 1 Rim
- 2 Foglight
- 3 Luminous beam adjusting screw

Removal and installation

With reference to the exploded view, operate as follows:

1. Remove rim (1), pressure-inserted in the foglight compartment of front bumper.
 2. Disconnect wiring and remove the foglight, fixed with three pins, from front bumper.
 3. Install the foglight by reversing the order of removal.
- Since clips (1) (refer to the following figure) could be damaged when removing, it is good practice to replace them when installing.



- 1 Clips

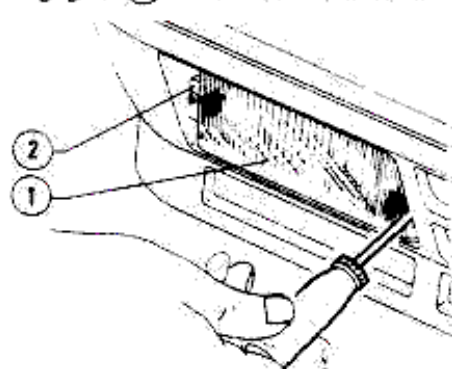
4. If necessary, adjust the luminous beam in the vertical direction, by operating on screw (3) (refer to the exploded view).

Lamps replacement

1. Remove the headlight rim (refer

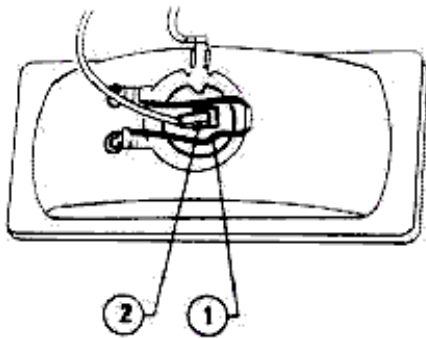
10: Removal and Installation:

2. Unscrew the screws and remove the two plates (2), separating foglight (1) from rear protection.



- 1 Foglight
- 2 Plates

3. Release clip (1), and carefully remove lampholder and bulb.



- 1 Clip securing lampholder
- 2 Lampholder

CAUTION:

Never touch the halogen lamp bulb with bare hands; if so, wash it with alcohol.

- 4. Install lampholder directing it correctly, and secure the related clip.

REAR FOG LAMPS

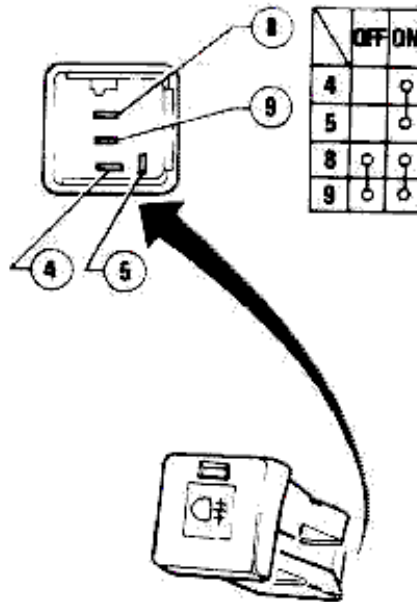
Location

The rear fog lamps are housed in the rear combination lamps (refer to: Rear Combination Lamps).

Replacement

To replace the rear fog lamps, refer to: Rear Combination Lamps - Lamp Replacement.

FOG LIGHT SWITCH



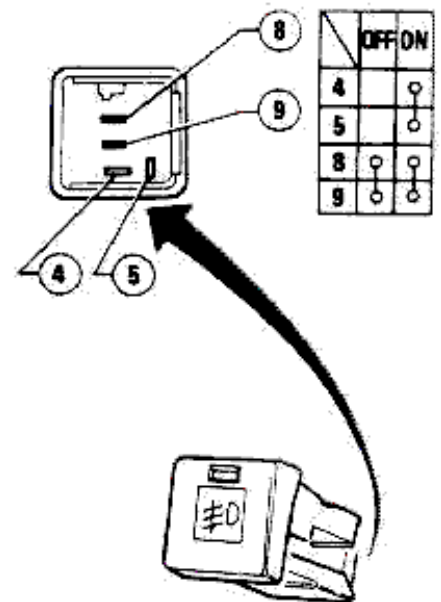
Location

This switch is located on the right side of cluster.

Check

Check the switch correct functioning ensuring that the continuity between terminals occurs as per the indications given in the table.

REAR FOG LIGHT SWITCH



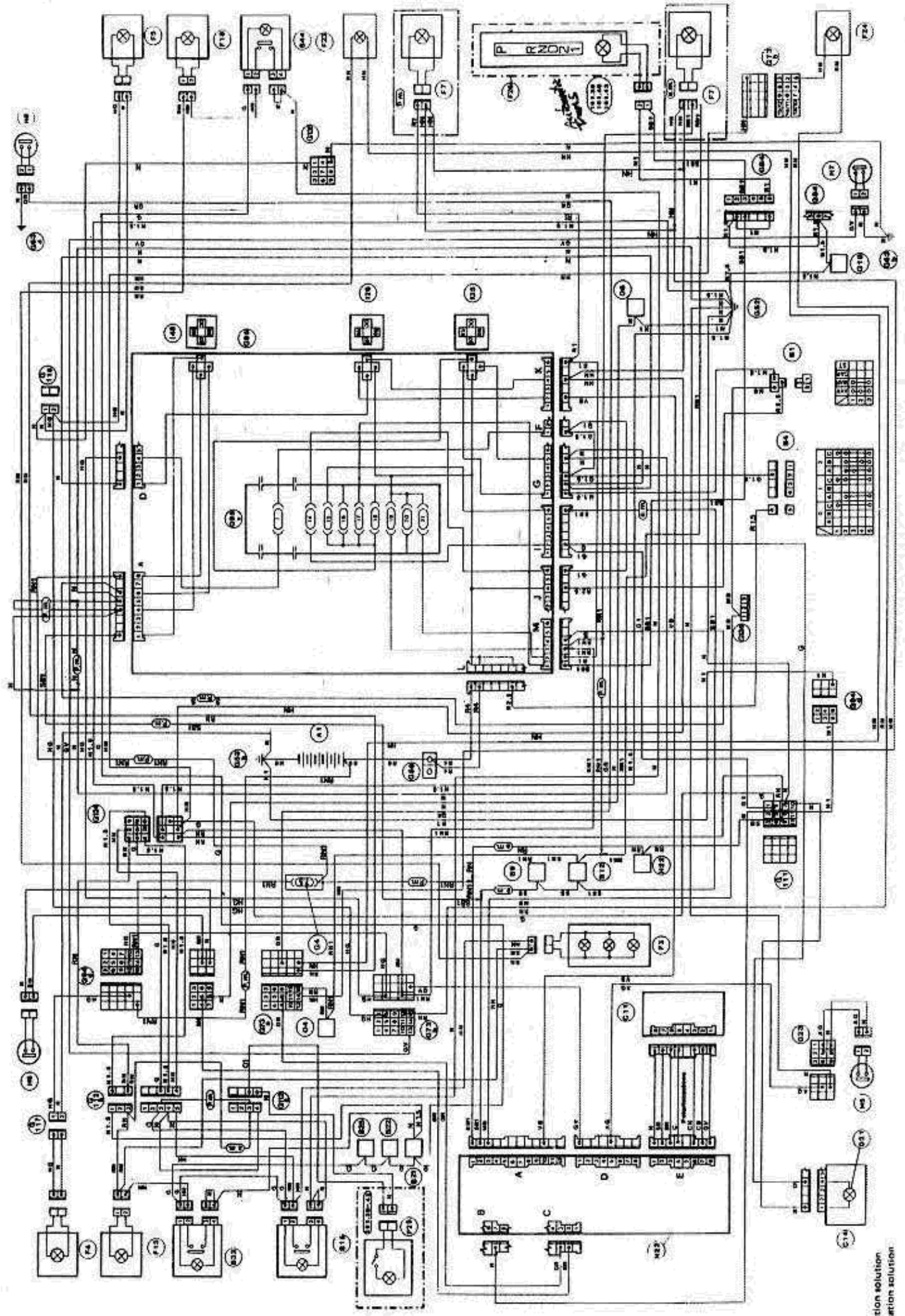
Location

This switch is located on the right side of cluster.

Check

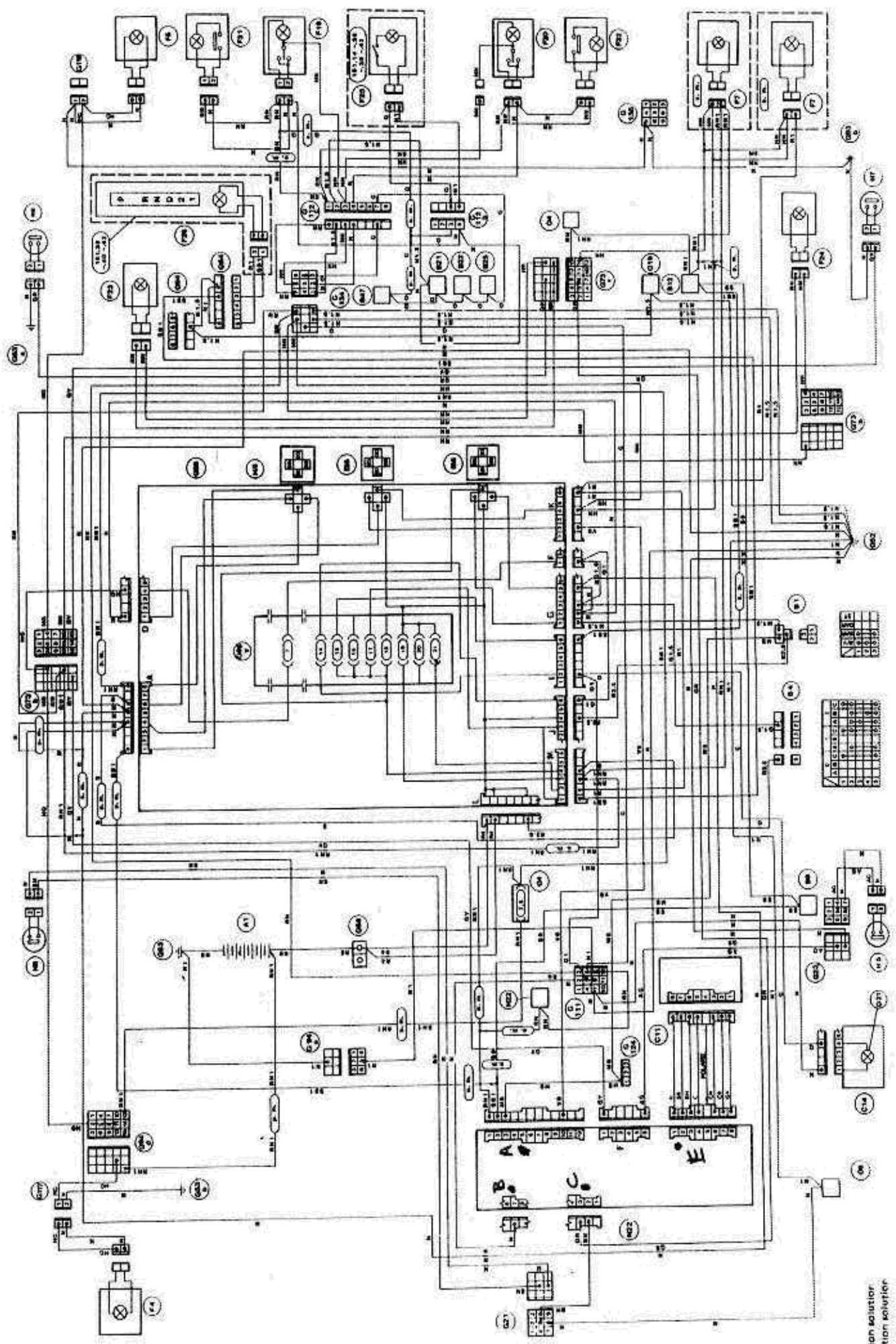
Check the switch correct functioning ensuring that the continuity between terminals occurs as per the indications given in the table.

INSIDE LIGHTING WITHOUT SUN ROOF (wiring diagram)



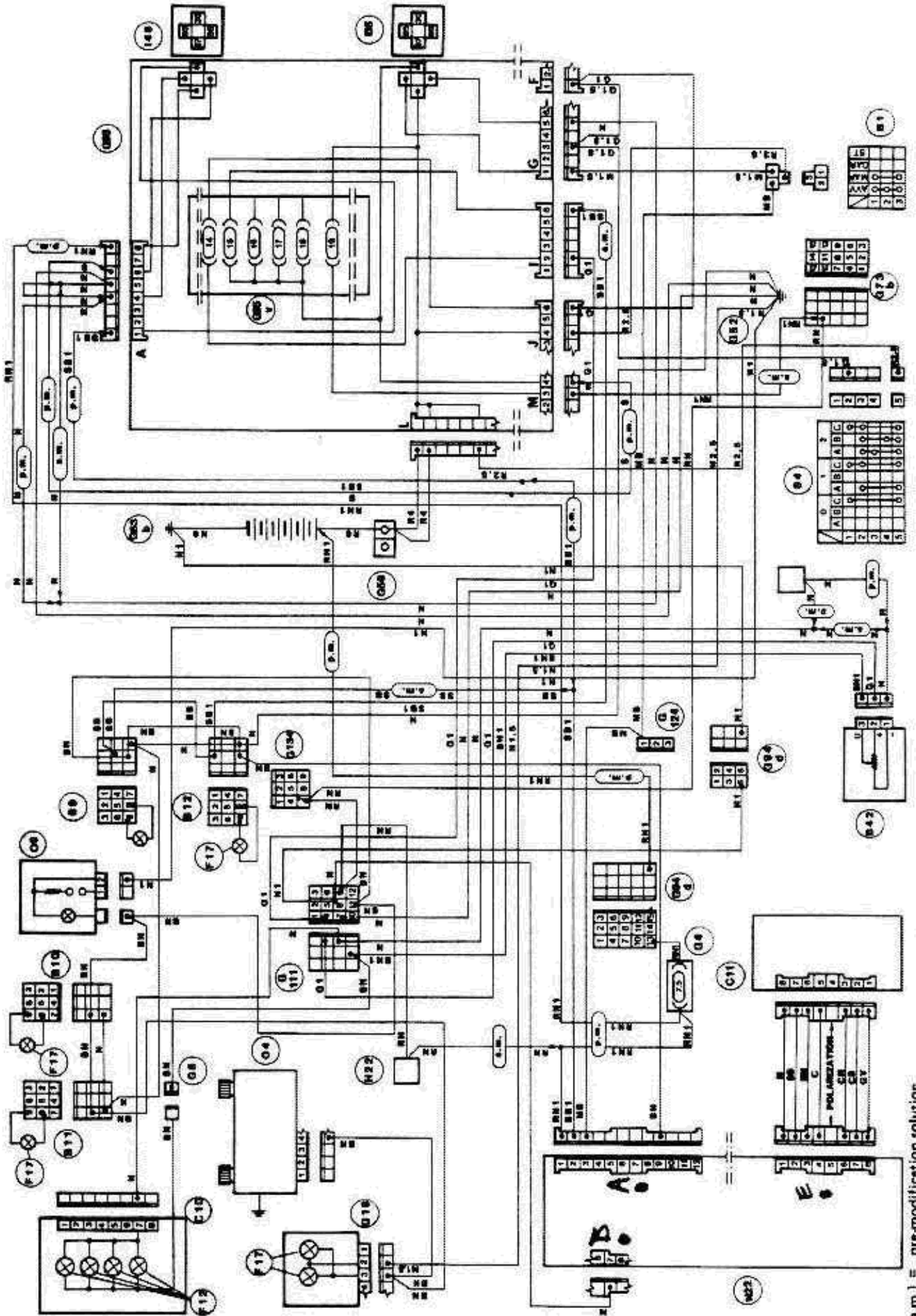
(a.m.) = pre-modification solution
 (p.m.) = post-modification solution

INSIDE LIGHTING WITH SUN ROOF (wiring diagram)



(s.m.) = pre-modification solution
 (e.m.) = post-modification solution

LAMPS UNDER RHEOSTAT (wiring diagram)

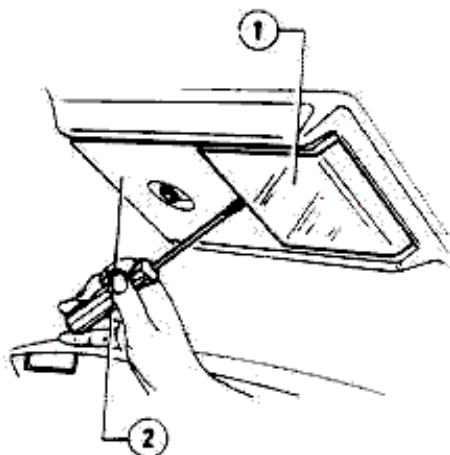


(a.m.) = pre-modification solution
 (p.m.) = post-modification solution

PASSENGER COMPARTMENT ROOF LAMP

Lamp replacement

1. Remove the transparent cover ① which is pressure-inserted in the lampholder ②, by means of a suitable tool.



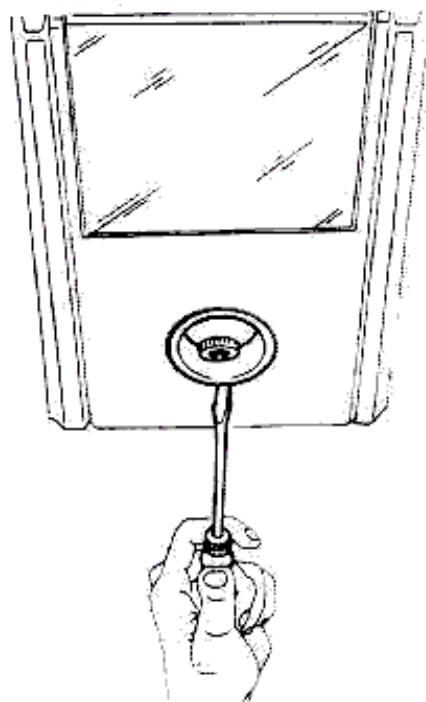
1. Transparent cover
2. Lampholder

2. Withdraw and replace the faulty lamp. Reinstall transparent cover.

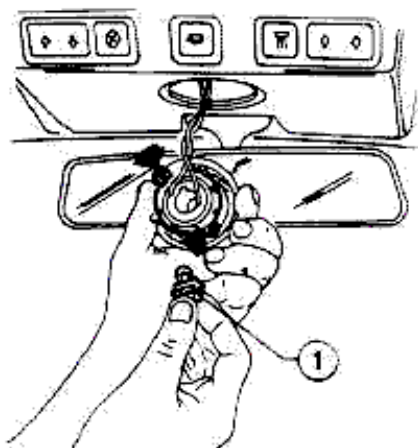
FRONT AND REAR SPOT LIGHT

Lamp replacement

1. Remove the spot unit, which is pressure-inserted into its seat on the longitudinal roof panel, by means of a suitable tool.



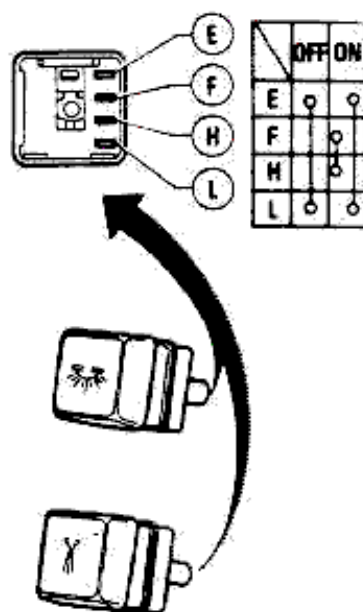
2. Unscrew lampholder ① and remove it from the spot light.
3. Remove and replace the bulb, and install lampholder.
4. If required to remove the spot light, unscrew the two screws securing the components, and separate them.



1. Lampholder

5. Install the spot by reversing the order of removal.

SWITCHES FOR PASSENGER COMPARTMENT ROOF LAMP AND SPOT LIGHT



Location

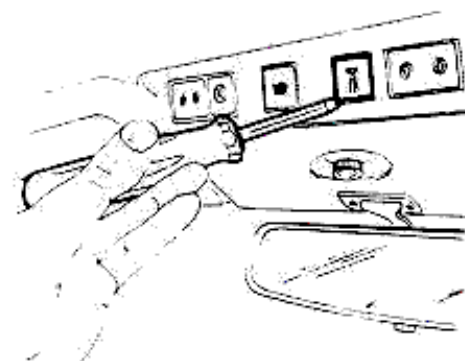
The passenger compartment and spot light switches are located on the roof front panel; the central spot light

switch is located on the roof central panel.

The following procedures are applicable for all switches.

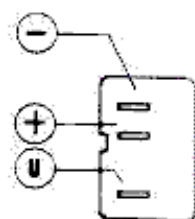
Removal and installation

1. Using a suitable tool, remove the switch from its seat.
2. Disconnect wiring and remove the switch.



3. Install switch by reversing the order of removal, and pressure insert it into its seat.

CLUSTER RHEOSTAT

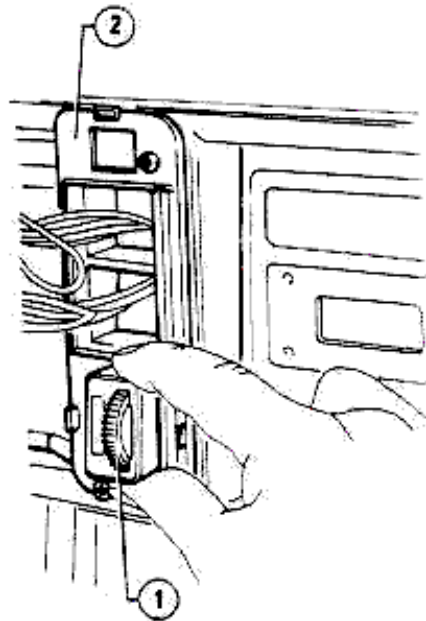


Location

It is located on the left side of cluster.

Removal and installation

1. Remove cover from its seat.
2. Withdraw rheostat (1) from rim (2).



- 1 Rheostat
- 2 Rim

3. Carry out installation by reversing the order of removal.

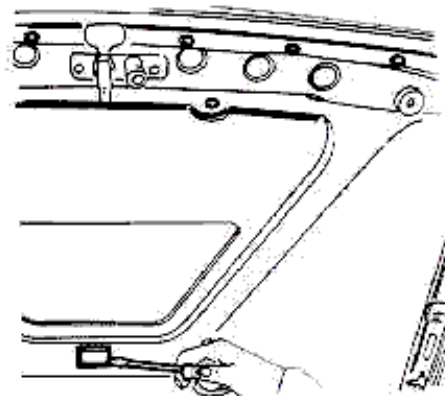
Check

With the lights on and operating on-cursor, check that the brightness of the lamps under rheostat changes. If not so, replace the rheostat.

ENGINE COMPARTMENT LAMP

Lamp replacement

1. Open the hood and, by means of a suitable tool, remove the transparent strip, which is pressure-inserted in the hood itself.

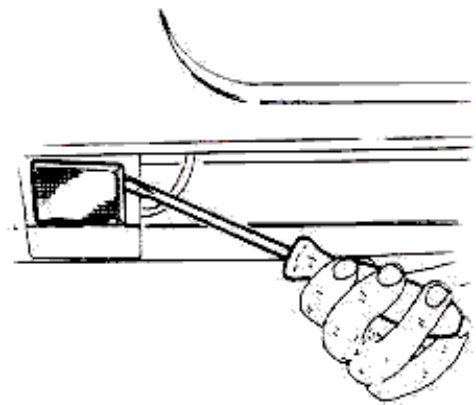


2. Withdraw and replace the lamp.
3. Install the transparent strip by reversing the order of removal.

TRUNK LAMP

Lamp replacement

1. Open the trunk and, by means of a suitable tool, remove the lampholder, which is pressure-inserted in the body.

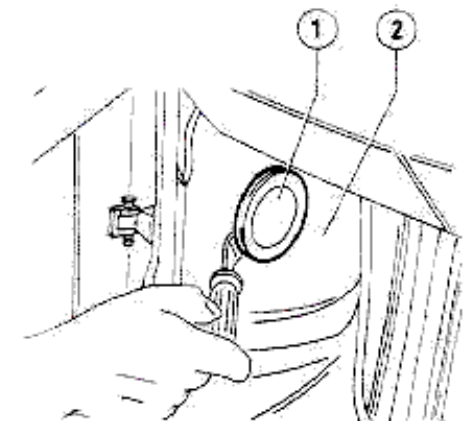


2. Withdraw and replace the lamp.
3. Install the lampholder by reversing the order of removal.

FLOOR LIGHTING LAMP

Lamp replacement

1. Using a suitable tool, remove pressure-inserted lampholder (1) from internal valance (2).

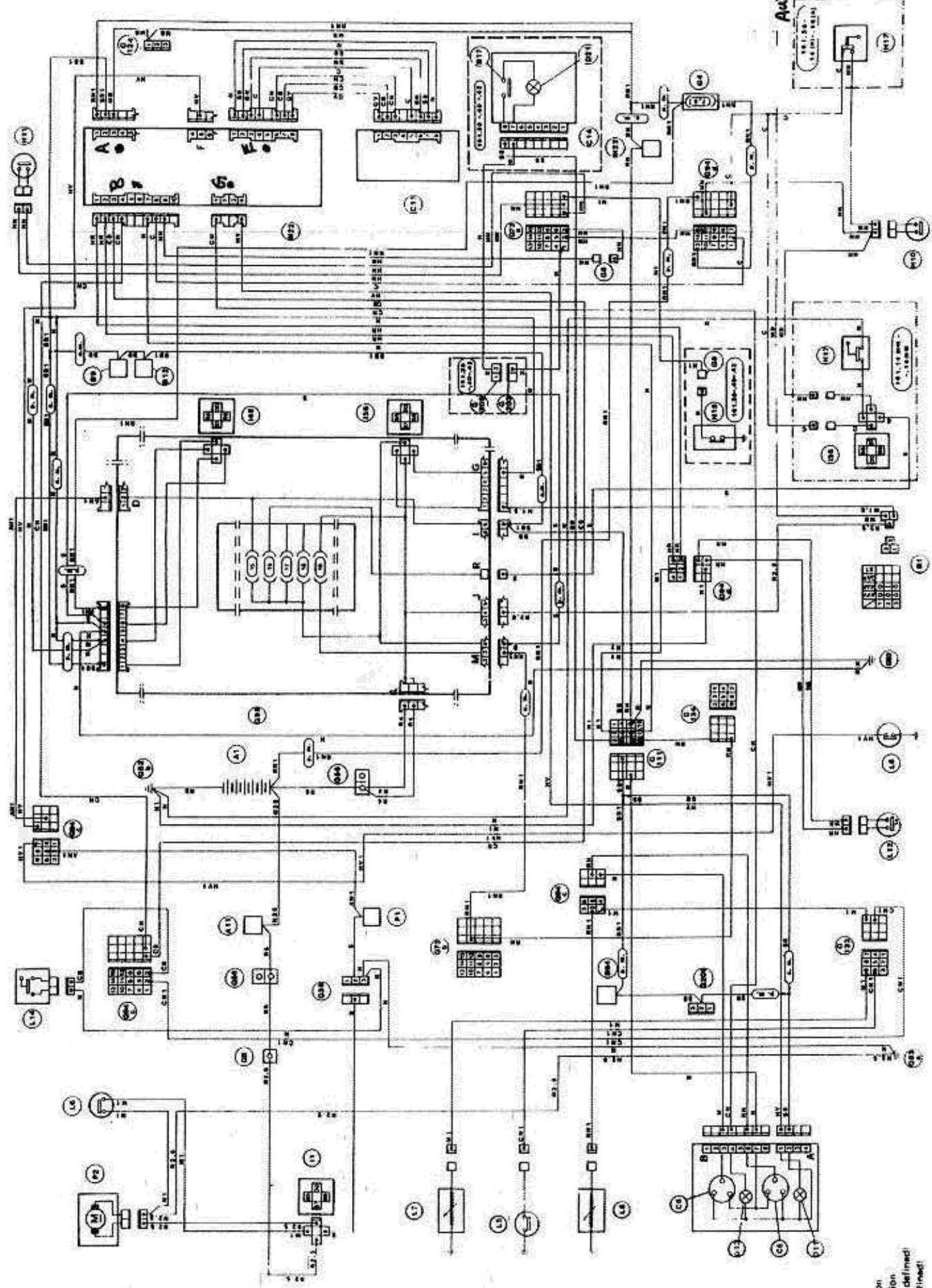


- 1 Lampholder
- 2 Internal valance

2. Extract and replace lamp.
3. Reinstall lampholder by reversing order of removal.

SENSORS AND SENDERS

ENGINE COOLING DOWN, LUBRICATION AND BRAKES AND CLUTCH LIQUID LEVEL



(a.m.) = pre-modification solution
 (p.m.) = post-modification solution
 (*) = from chassis No. (to be defined)
 (**) = to chassis No. (to be defined)

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COOLANT LEVEL SENSOR

Location

It is inserted in the header tank of the cooling system.

Check

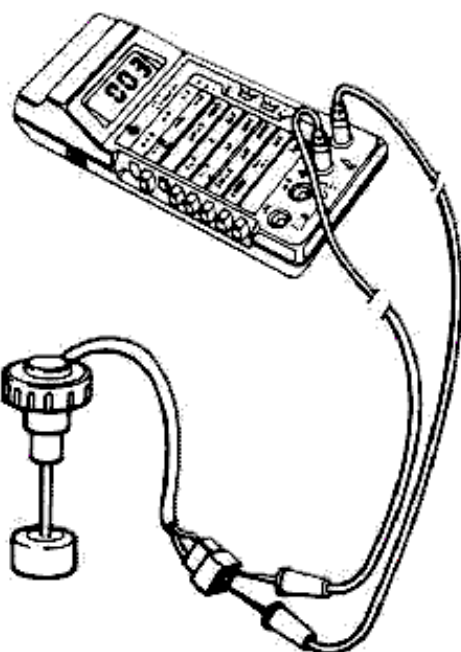
Connect a tester to the sensor connector as per the figure, and check the following resistance values.



Float lifted
Resistance $\cong 0 \Omega$



Float lowered
Resistance = ∞



BRAKE AND CLUTCH FLUID MINIMUM LEVEL SENDER

Location

It is inserted in the brake and clutch fluid tank.

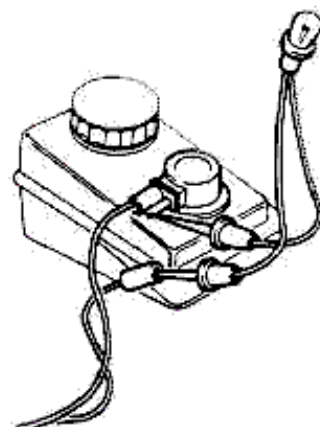
Check

1. Set the ignition key to the MAR position.

2. Connect a warning lamp to the pins of float plug, as shown in the figure.

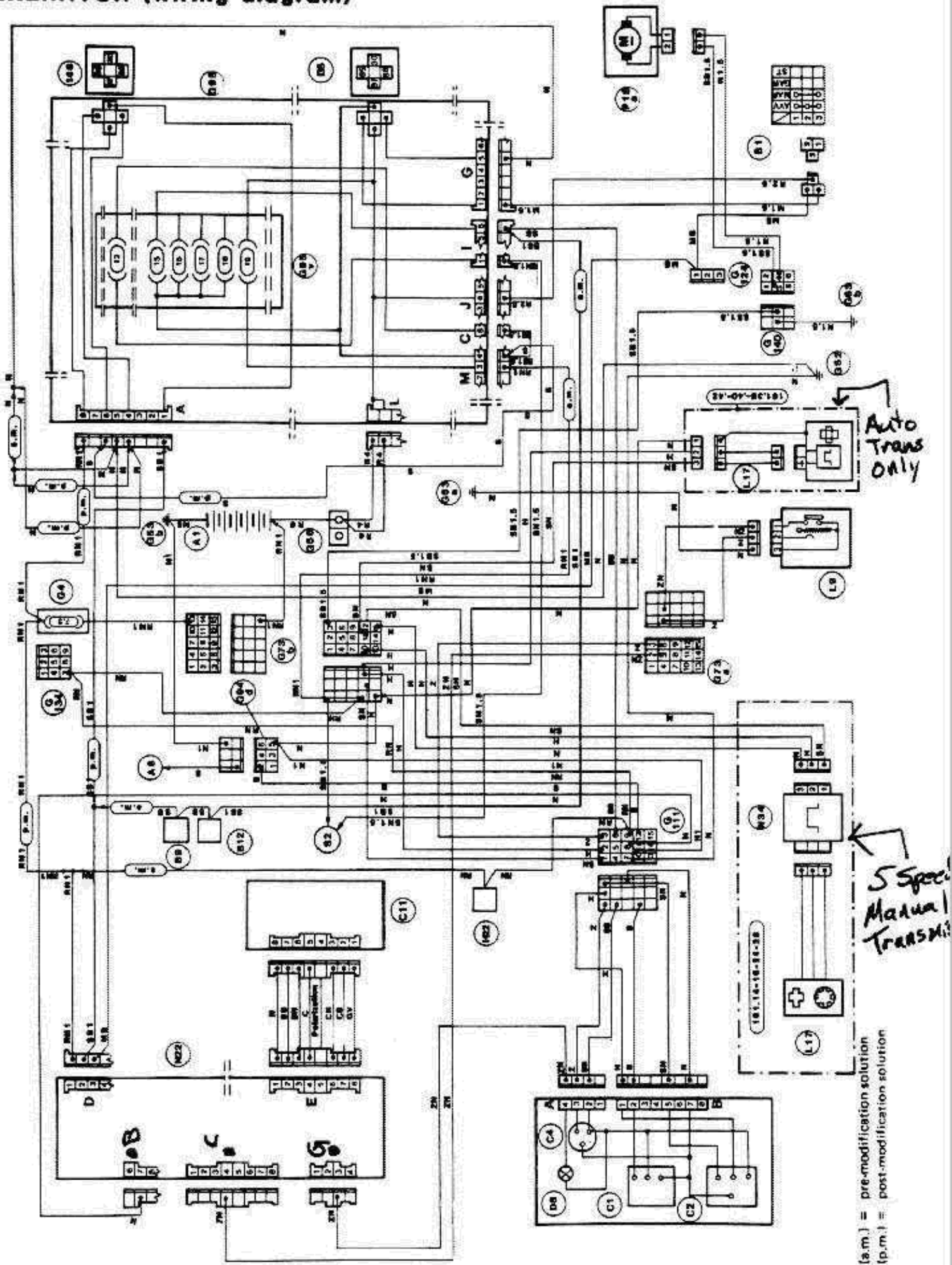
3. Check the device functions properly by checking the following.

Float lifted :
warning lamp off
Float lowered :
warning lamp on



ELECTRICAL SYSTEM

FUEL SUPPLY, REV COUNTER AND SPEEDOMETER PULSE GENERATOR (wiring diagram)



INJECTION CONTROL UNIT

See: Group 04 - Electrical Components.

FUEL LEVEL INDICATOR SENDER

See: Group 04 - Electrical Components.

ELECTRIC FUEL PUMP

See: Group 04 - Main components - Electric Fuel Pump.

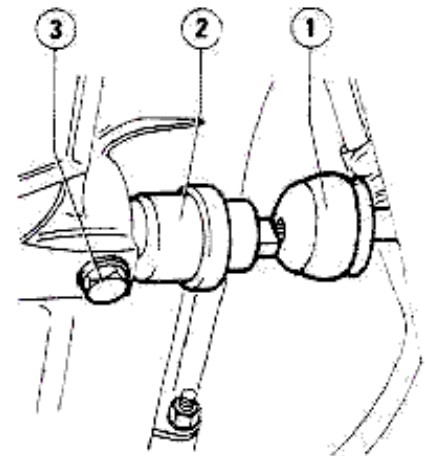
SPEEDOMETER PULSE GENERATOR

Location

It is inserted in the clutch-speed gear casing.

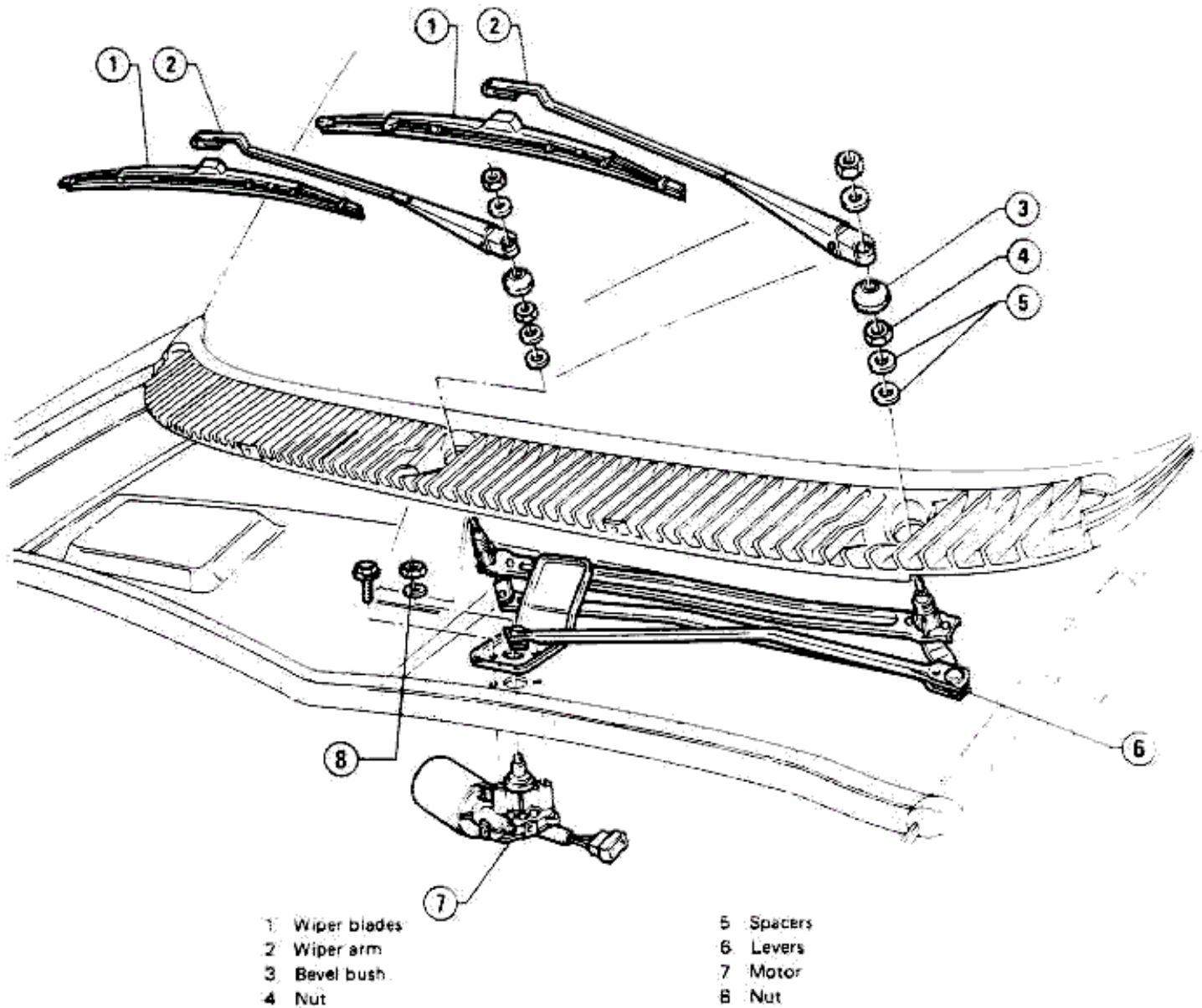
Removal

Move boot ①, unscrew the securing screw ③ and remove the speedometer pulse generator ②.



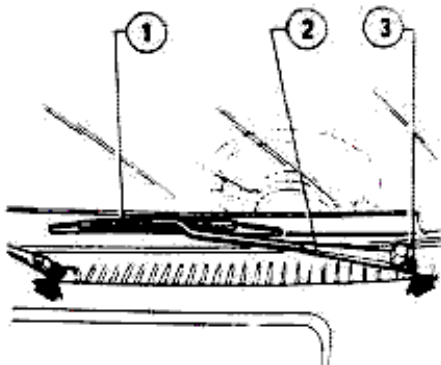
- 1 Boot
- 2 Speedometer pulse generator
- 3 Securing screw

WINDSHIELD WIPER



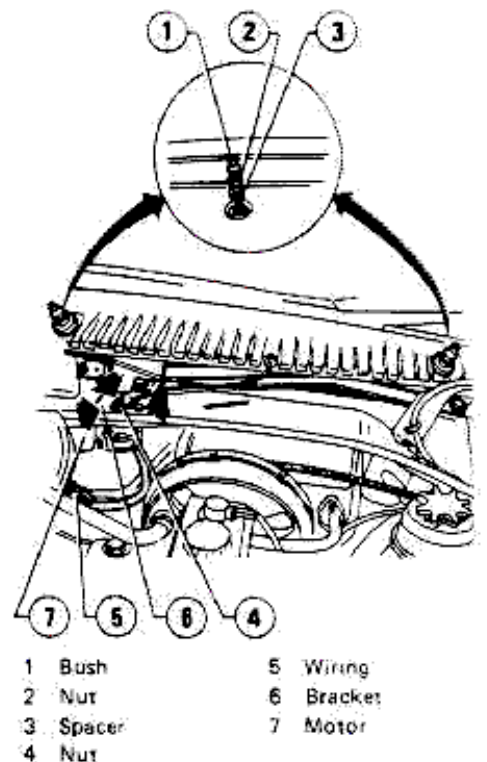
REMOVAL AND INSTALLATION

1. Remove blades ① from wiper arms.
2. Lift the covers ③ of nuts securing wiper arms ②, unscrew the nuts and remove wiper arms.



- 1 Wiper blades
- 2 Wiper arm
- 3 Cover

3. Open the hood and disconnect motor wiring ⑤.
4. Withdraw bush ①, unscrew nut ② and remove it together with spacer ③.
5. Unscrew nut ④ which secures motor pin to linkage.
6. Unscrew the three screws securing bracket ⑥ to scuttle and motor ⑦. Remove both motor and windshield wiper levers.



ELECTRICAL SYSTEM

7. Install the windshield wiper by reversing the order of removal.

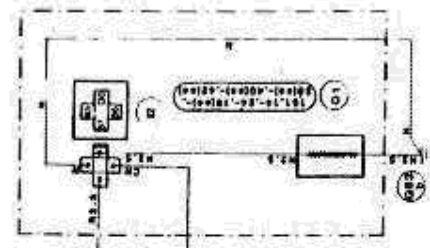
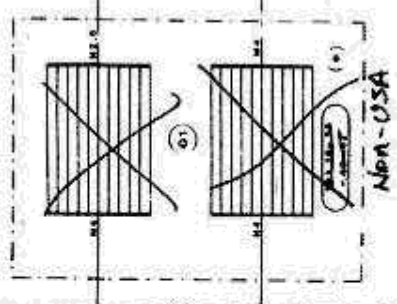
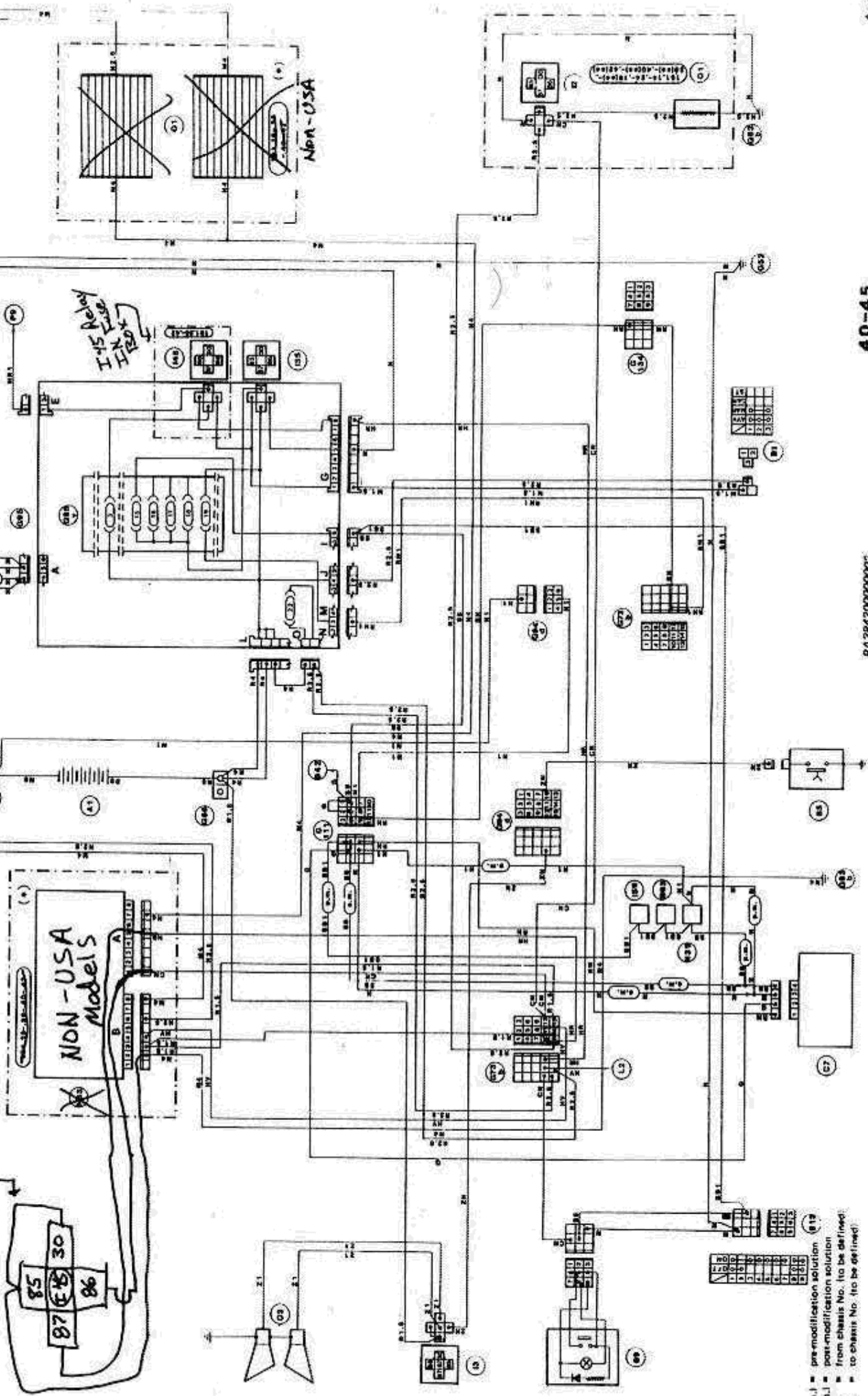
TROUBLE DIAGNOSIS AND CORRECTIONS

Condition	Probable cause	Corrective action
Windshield wiper fails to operate	<ul style="list-style-type: none"> • Fuse blown • Connection loosened or interrupted • Control contact faulty • Foreign matter interrupts the correct movement of blades control levers • Control rod disconnected • Arm shaft seized 	<p>Replace fuse</p> <p>Restore connection</p> <p>Check combination switch unit (right lever); replace if required</p> <p>Remove foreign matter</p> <p>Connect control rod</p> <p>Replace arm shaft</p>
Windshield wiper operating speed too low	<ul style="list-style-type: none"> • Short circuit of motor armature • Blades worn or shaft seized • Supply voltage low • Motor, if noisy 	<p>Replace motor</p> <p>Replace blades</p> <p>Check supply</p> <p>Replace motor</p>
Windshield wiper fails to stop correctly	<ul style="list-style-type: none"> • Stopper faulty • Windshield wiper motor faulty 	<p>Replace stopper</p> <p>Replace motor</p>
Windshield wiper fails to operate intermittently but operates at low and high speeds	<ul style="list-style-type: none"> • Windshield wiper control faulty • Circuit faulty • Intermittence device faulty 	<p>Replace combination switch unit (right lever)</p> <p>Check the circuit</p> <p>Replace intermittence device</p>
Intermittence speed too low for proper wiping	<ul style="list-style-type: none"> • Stopper faulty • Intermittence device faulty 	<p>Replace stopper</p> <p>Replace intermittence device</p>
Intermittence speed too high for proper wiping	<ul style="list-style-type: none"> • Line voltage lower than 10 V • Intermittence device faulty 	<p>Restore line voltage correct value</p> <p>Replace intermittence device</p>
Intermittence speed changes incorrectly	<ul style="list-style-type: none"> • Windshield wiper switch faulty • Circuit faulty • Windshield wiper motor faulty • Intermittence device faulty 	<p>Replace combination switch unit (right lever)</p> <p>Check circuit</p> <p>Replace motor</p> <p>Replace intermittence device</p>

ELECTRIC ACCESSORIES HORNS, HEATED REAR WINDOW AND CLOCK (wiring diagram)

Power also goes to mirror adjust relay (E45) under back seat which in turn activates the other (E45) relay in the fuse box which activates wipers located in the mirror.

other I45 is in Fuse box
This I45 is under Back seat



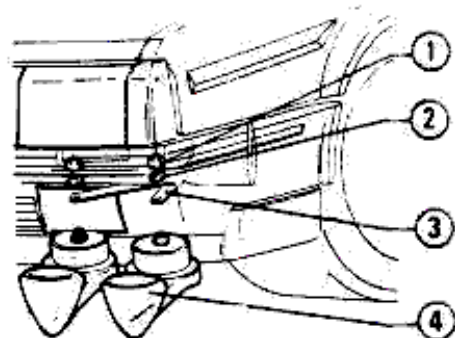
(*) m.1 = pre-modification solution
 (**) m.1 = post-modification solution
 (***) = from chassis No. (to be defined)
 (****) = to chassis No. (to be defined)

HORNS

Location

These are mounted inside the bumper on the support bracket which is positioned under the left front combination lamp.

Removal and installation



- 1 Nut
- 2 Washer
- 3 Support bracket
- 4 Horns

1. For easier operation, set the vehicle on a lift.
2. Operating on the left side, inside the bumper, disconnect the wiring of both horns.
3. Unscrew the nut securing horns to support bracket; remove horns.

4. Install horns by reversing the order of removal.

HORNS CONTROL PUSHBUTTON

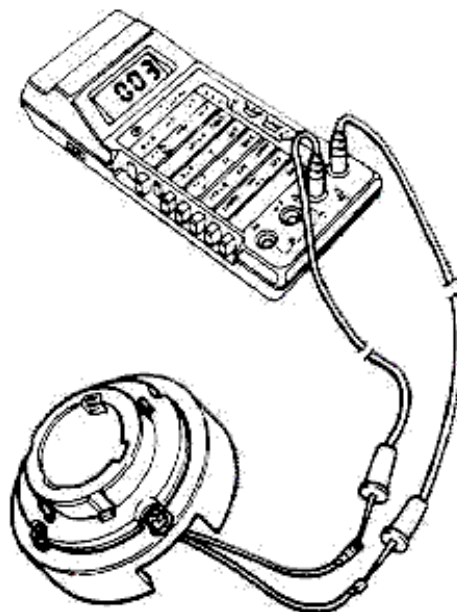
Location

It is located in the centre of steering wheel.

Check

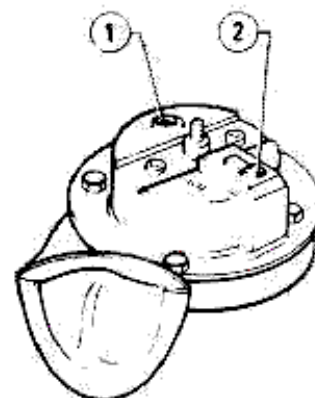
1. Connect the tester tips to the pushbutton terminals, operating as per figure.
2. Check the pushbutton correct functioning, ensuring the following resistance values:

Pushbutton released: ∞
 Pushbutton depressed: 0Ω

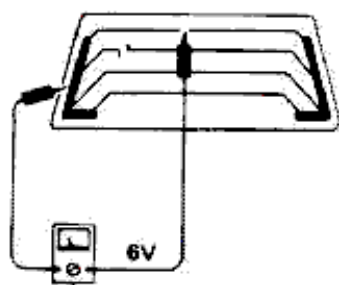


HORNS SETTING

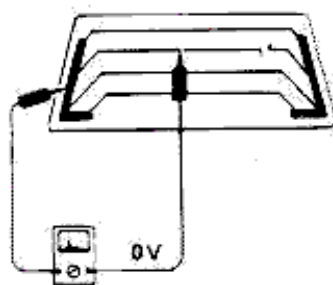
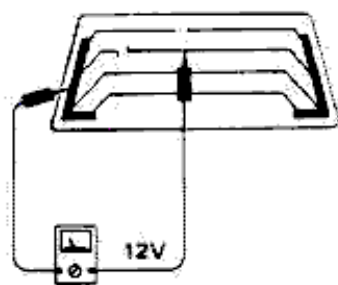
Carry out the horns setting by operating on adjusting screw ①. At the end of the operation, let a drop of paint fall on the screw to tighten it.



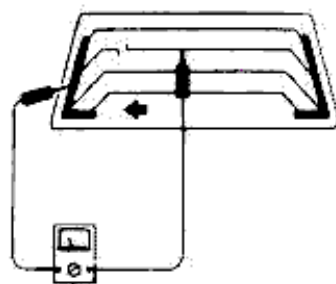
- 1 Adjusting screw
- 2 Connector



If the filament is interrupted, the voltmeter indication must be 0 or 12 Volt.



3. To identify the interruption, it is necessary to move the tester tip along the filament, and set in evidence the point in which the instrument index moves abruptly.



Or, after verifying that current flows properly to the heated rear window, check the filament electric continuity via the switching on of a warning lamp parallel-connected to the leads of the filament under check.

Filament repair

Tools and materials for the repair

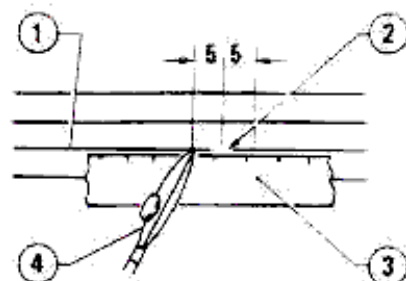
1. Conductor silver compound
2. Ruler (30 cm (11.8 in) length)
3. Ruling pen
4. Heat gun
5. Alcohol
6. Cloth

Repair

1. Clean the wire and the surrounding area with a cloth soaked in alcohol.
2. Put a slight amount of conductor silver compound on the ruling pen end.

Shake the silver compound box before use.

3. Position a ruler on the rear window, in correspondence with the interrupted wire and, by means of the ruling pen, lay the silver compound so as to cover the wire in the interrupted area, on both sides, for about 5 mm (0.2 in).



- 1 Filament
- 2 Interruption
- 3 Ruler
- 4 Ruling pen

4. Dry the ruling pen end in order to remove the silver compound residuous.
5. Once the repair has been carried out wait for about 10 minutes, then check the continuity of the wire concerned.

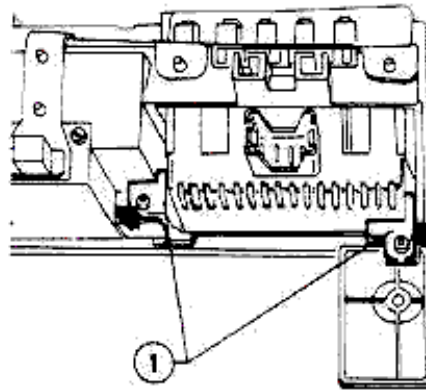
During the test, do not touch the repaired filament.

6. Heat the repaired area with a hot air jet for about 20 minutes, keeping the heat-gun orifice at about 3 cm (1.18 in) from the surface. If a heat-gun is not available, let dry for 24 hours.

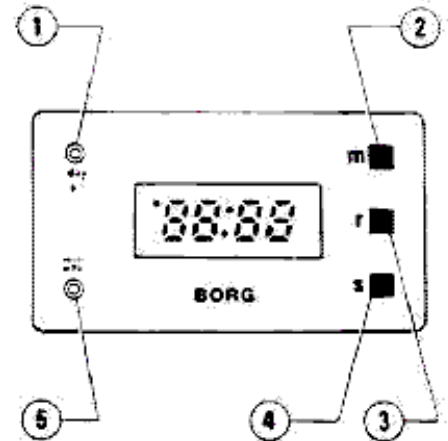
CLOCK

Location

It is inserted on the instrument panel beside the ALFA ROMEO Control display.



1 Securing plates



Removal and installation

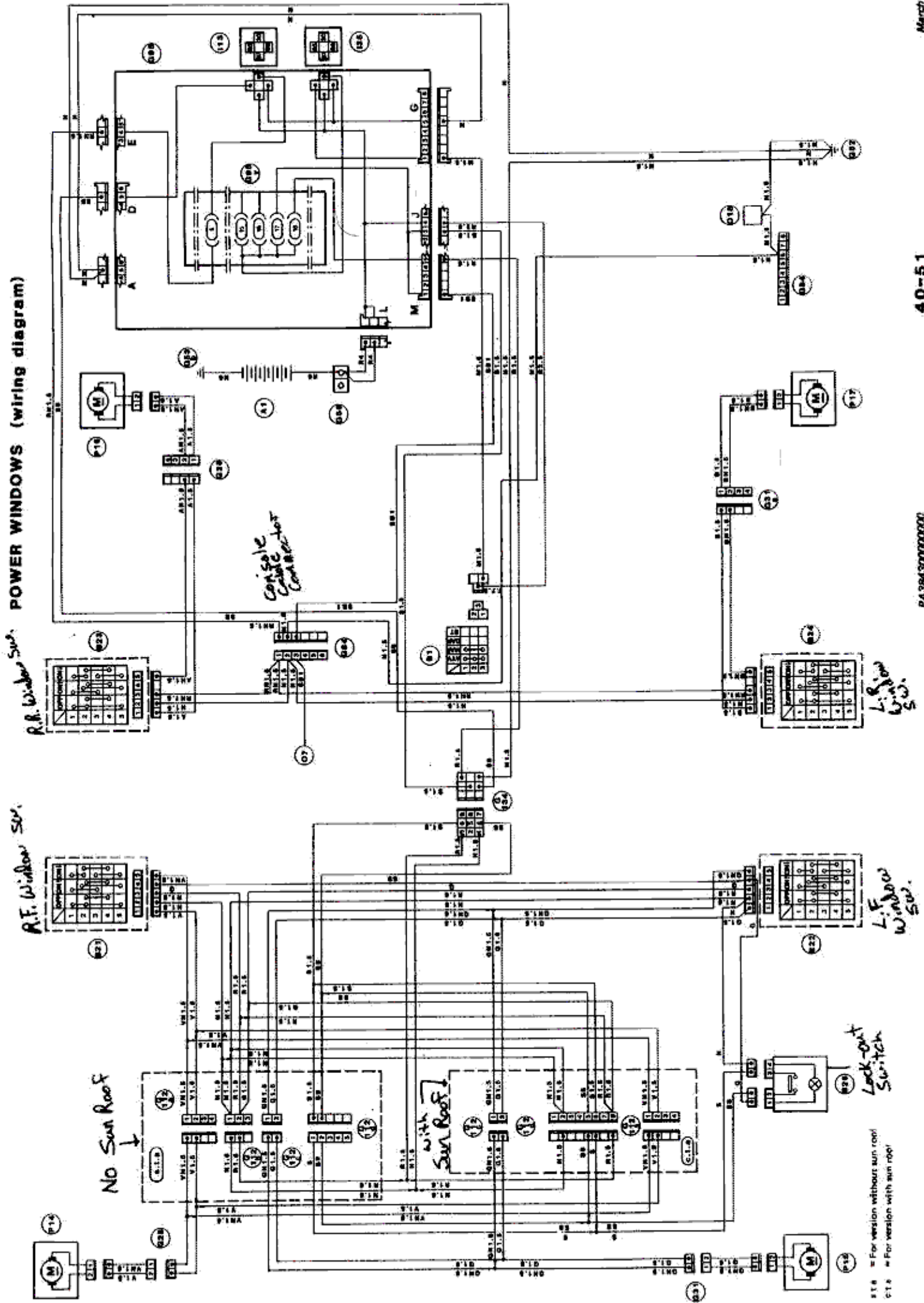
1. Remove the instrument panel from its seat on the dashboard.
2. Unscrew the two screws and remove plates ①.

The color of the indications displayed is green.

For easier comprehension of clock functioning, refer to the given indications and the related sequence.

- 1 Hour or day setting pushbutton
- 2 Function display revolver pushbutton (i.e.: press this pushbutton in sequence to obtain the functions in the sequence shown below)
 - a) Time-hour
 - b) Date
 - c) Chronometer
- 3 Chronometer reset
- 4 Chronometer start/stop
Right time setting
- 5 Month or minutes setting pushbutton

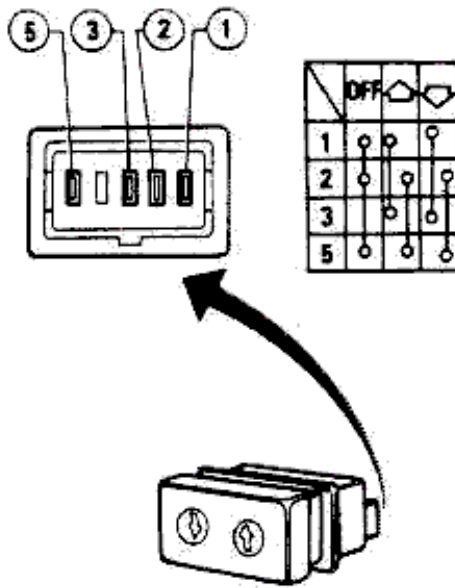
POWER WINDOWS (wiring diagram)



818 = For version without sun roof
 819 = For version with sun roof

ELECTRICAL SYSTEM

POWER WINDOWS SWITCHES



Location

The two switches of front power windows, are inserted in the roof

front panel.

The two switches of rear power windows, are inserted in the rear part of central console.

The following procedures are applicable for all switches.

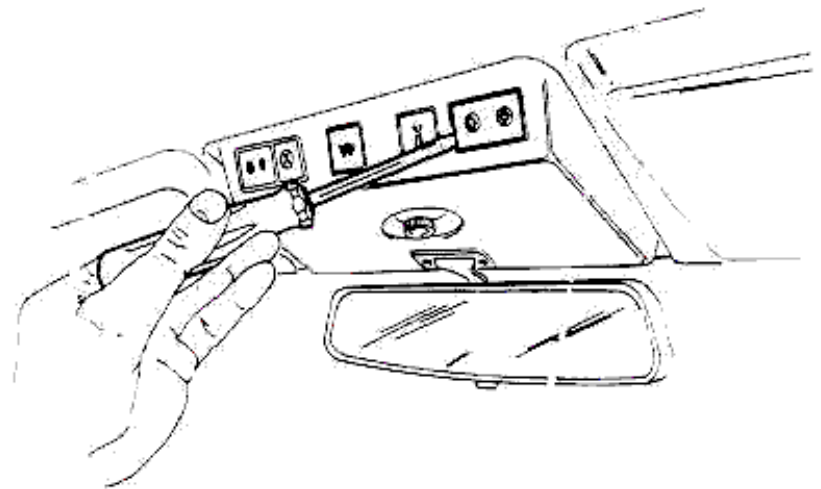
Removal and installation

1. By means of a suitable tool, withdraw the switch casing from its seat on the roof panel, detach wiring and remove the switch.

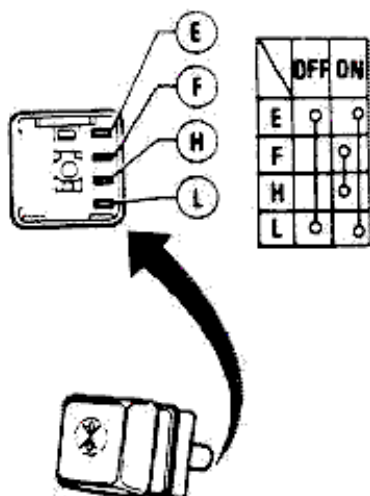
2. Install the switch by reversing the order of removal, and pressure-insert it into its seat.

Check

Check the switch functioning ensuring that the electric continuity between terminals occurs according to the indications given in the table.



INHIBITOR SWITCH FOR REAR POWER WINDOW



Location

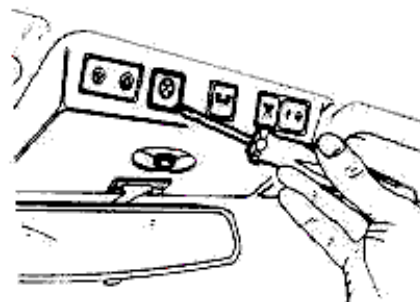
It is inserted in the roof front panel.

Removal and installation

1. By means of a suitable tool, withdraw the switch casing from its seat, disconnect wiring and remove the switch.

Check

Check the switch functioning ensuring that the electric continuity between terminals occurs according to the indications given in the table.



POWER WINDOW MOTORS

Check

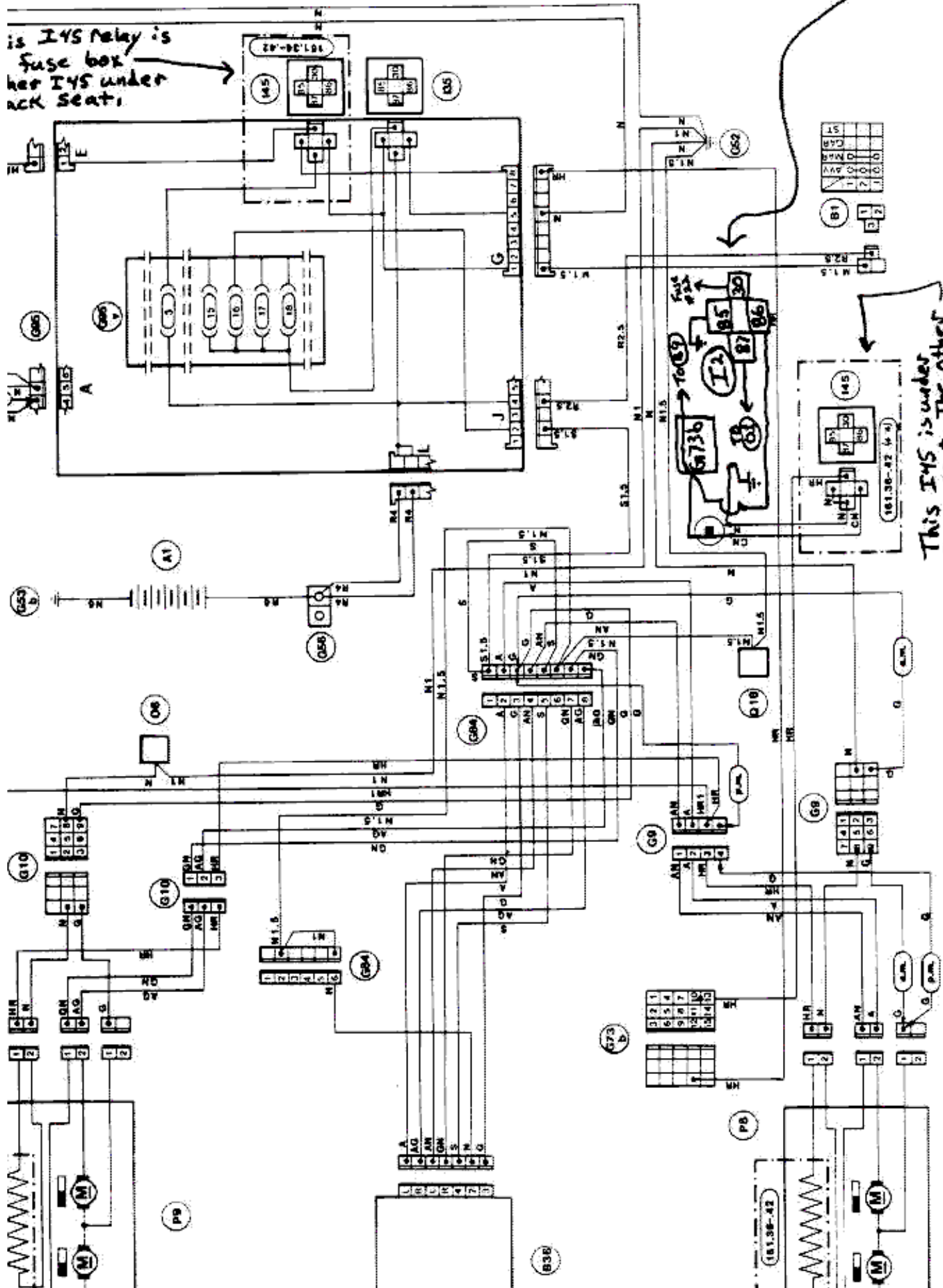
By means of a warning lamp check that, with the control switch in the contact position, the current flows correctly to motor terminals. If not so, replace the motor.

2. Install the switch by reversing the order of removal, and pressure-insert it into its seat.

ELECTRICAL SYSTEM

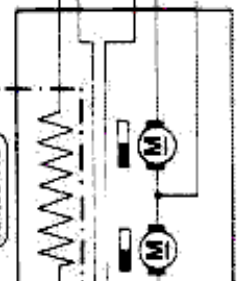
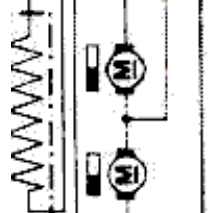
See Page 00-45
For details of
① - Heated Rear Window circuit
Partly drawn here

CTRIC HEATED REARVIEW MIRRORS (wiring diagram)

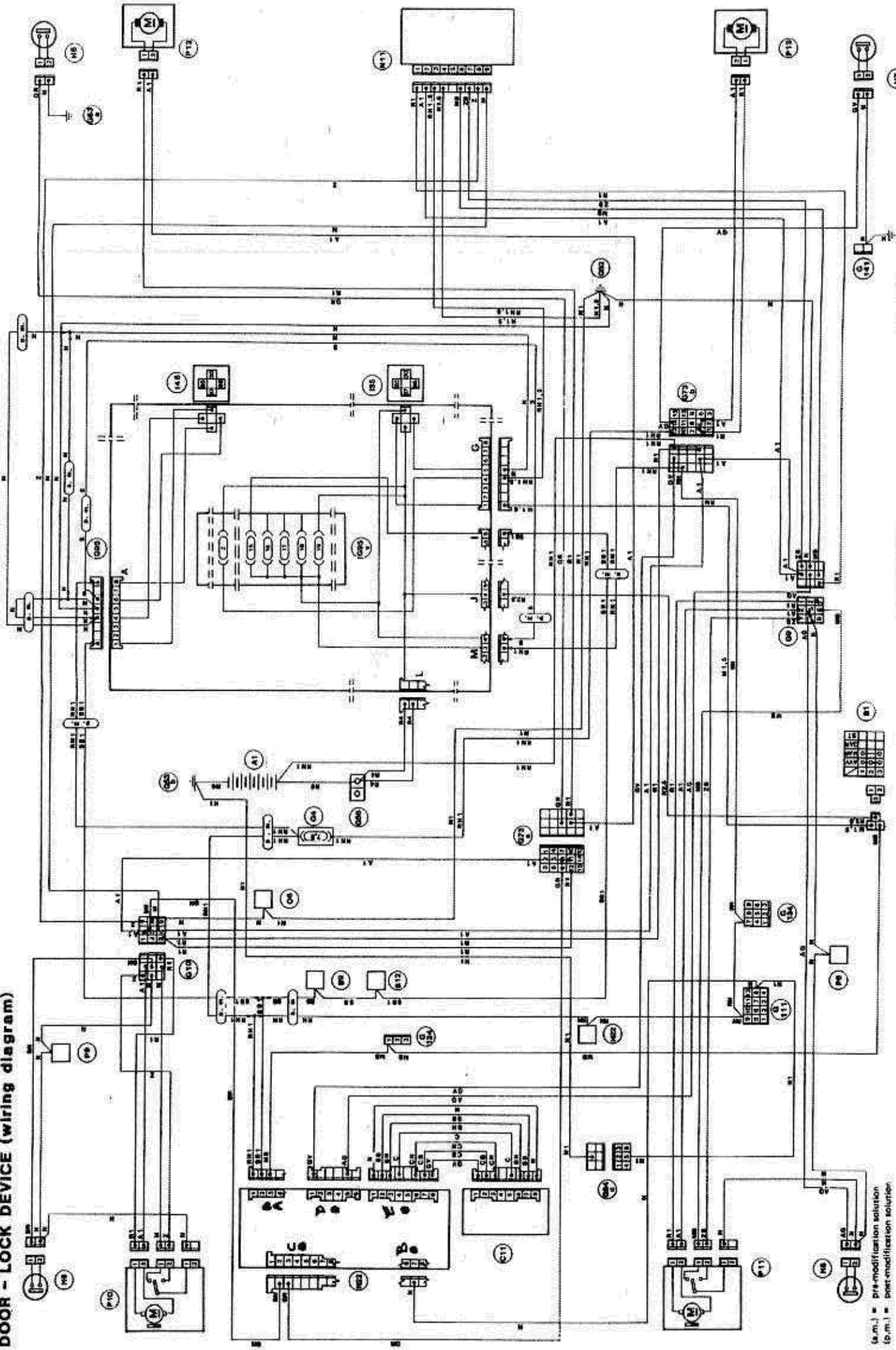


is I45 relay is
fuse box
near I45 under
RCK seat.

This I45 is under
Rear seat. The other
I45 is in fuse box.



DOOR - LOCK DEVICE (wiring diagram)



(a.m.) = pre-modification solution
(b.m.) = post-modification solution

DOOR - LOCK CONTROL UNIT

Location

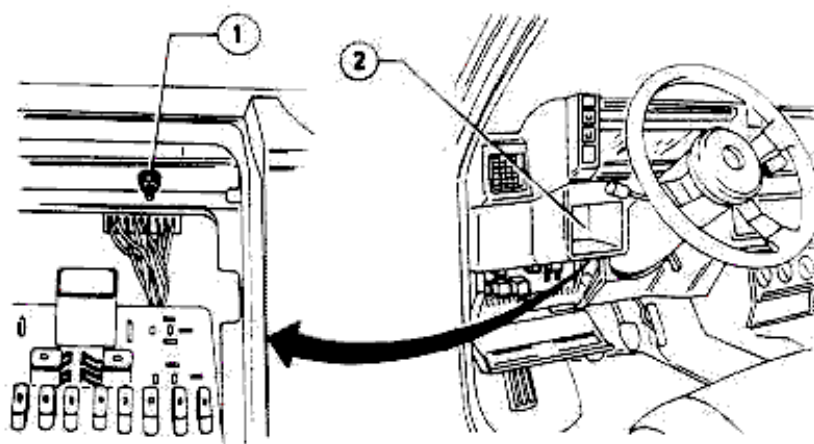
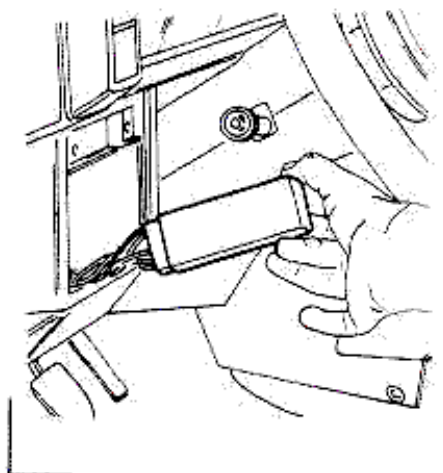
This control unit is secured to the bracket inside the dashboard, above the central fusebox.

Removal and installation

1. By means of a suitable tool, withdraw glove box (2) from dashboard.
2. Operating from inside central fusebox unscrew nut (1).

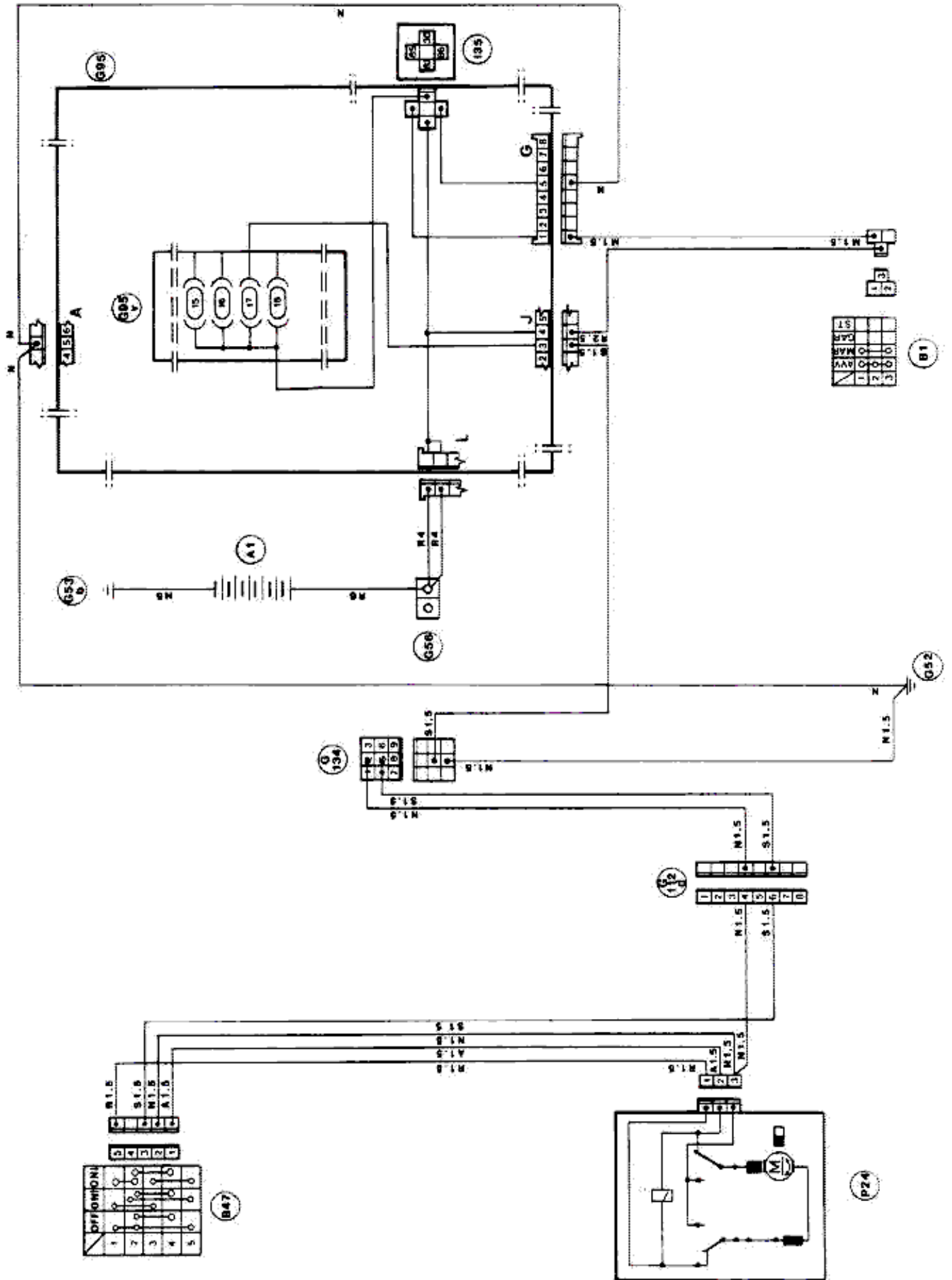
3. Withdraw the door-lock control unit through the dashboard opening, in correspondence with glovebox.

4. Disconnect wiring and remove the door lock control unit, complete with related bracket.
5. Install the control unit on vehicle by reversing the order of removal.

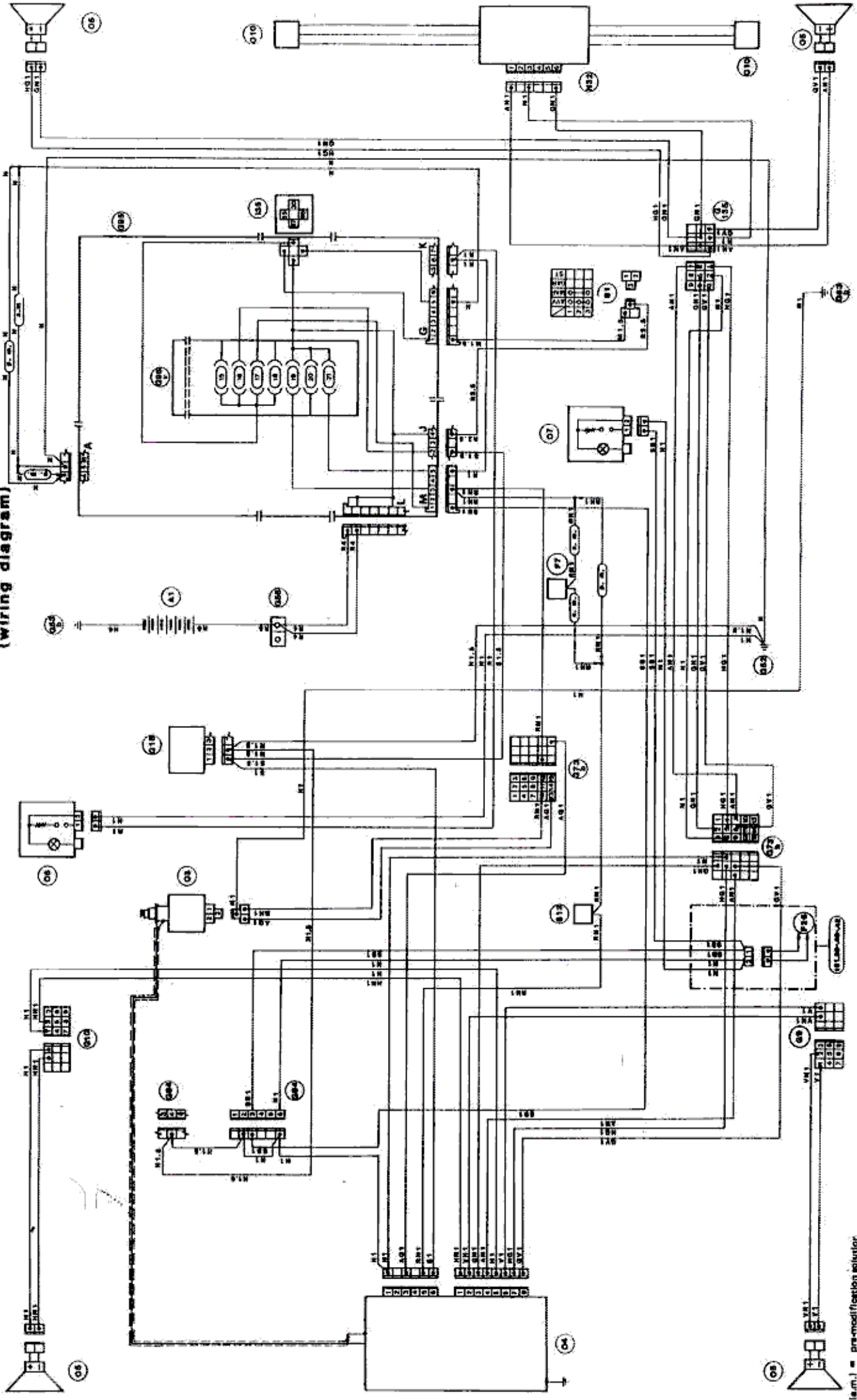


- 1 Nut
- 2 Glove box

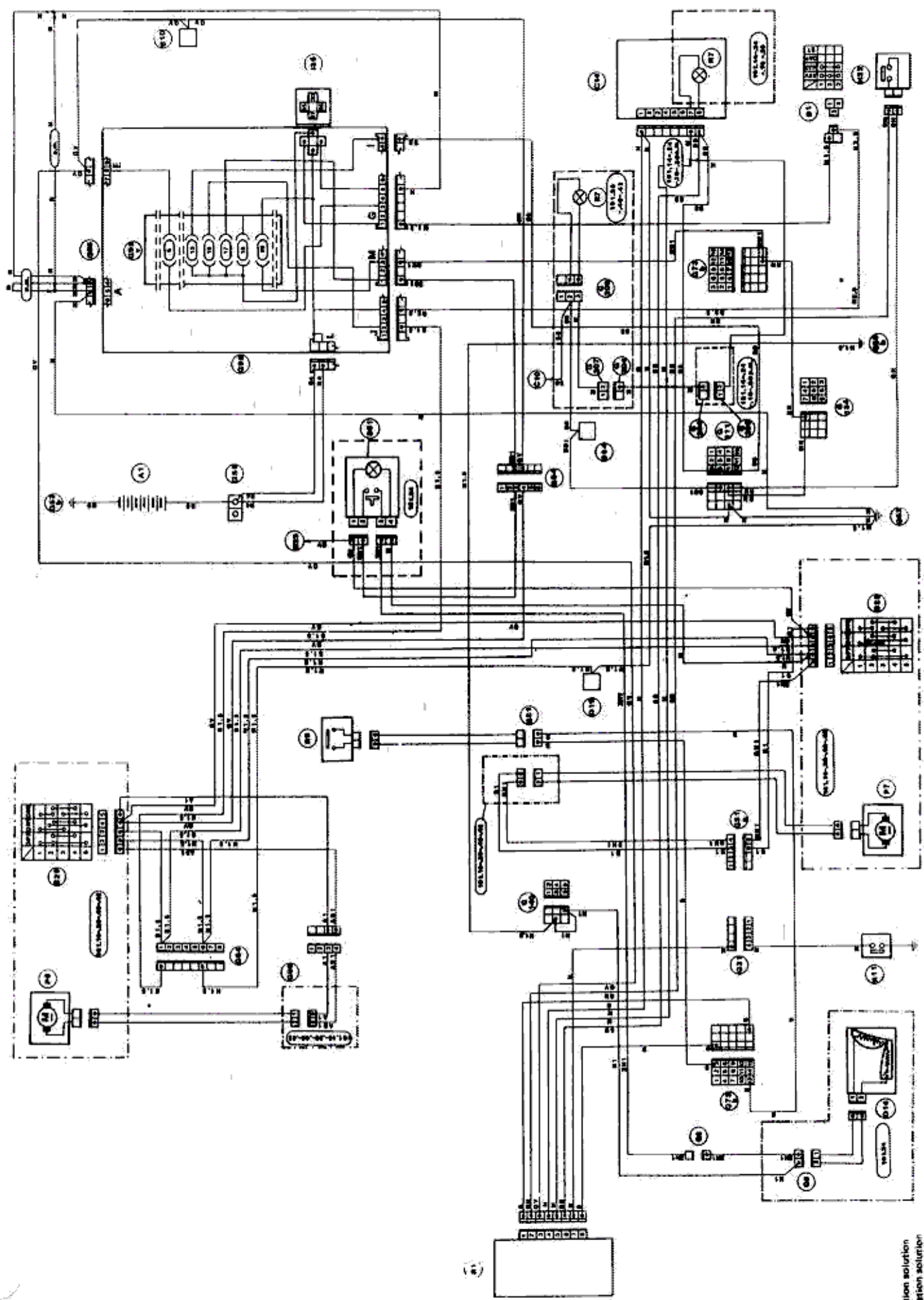
ELECTRIC SUN ROOF (wiring diagram)



CAR RADIO, CIGAR LIGHTER AND HEADPHONE SOCKETS (wiring diagram)



ELECTRIC SEAT BACKS AND SEAT BELTS (wiring diagram)



(s.m.) = pre-modification solution
(p.m.) = post-modification solution

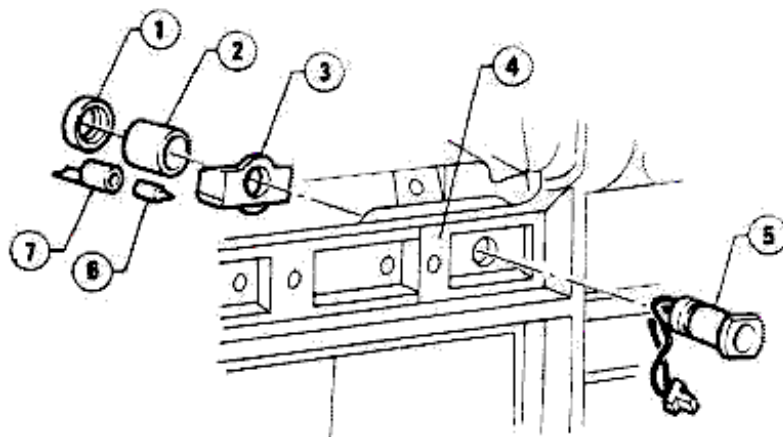
FRONT CIGAR LIGHTER

LOCATION

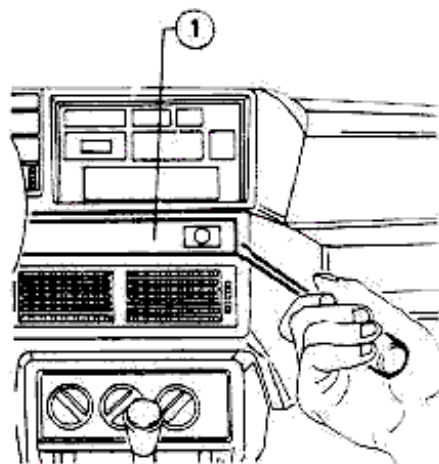
It is located on the dashboard, above the central air vents.

Removal and installation

1. Withdraw cigar lighter from its seat.
2. By means of a suitable tool, withdraw panel ① from its casing on central console, and disconnect the wiring.



- | | |
|--------------------------|----------------------|
| 1 Ring nut | 5 Cigar lighter seat |
| 2 Cigar lighter covering | 6 Bulb |
| 3 Transparent cover | 7 Lampholder |
| 4 Dashboard | |



1 Panel

3. Using a suitable tool, remove the central air vent support (complete with air vents).
4. Operating through the air vent support compartment, disconnect wiring of both cigar lighter and lighting lamp.
5. With reference to the following exploded view, unscrew ring nut ①, and remove front cigar lighter body, by disassembling it.
6. Install the cigar lighter, by reversing the order of removal.

Lamp replacement

1. Remove central console rear part.
2. Operating through the air vent support compartment, disconnect lamp wiring.
3. Lift and withdraw lampholder from its seat in the transparent cover; replace the lighting lamp. Should the operation be difficult, disassemble the cigar lighter body (refer to: Removal and Installation) and operate on the separated transparent cover.
4. Install by reversing the order of removal.

Check

1. Remove the air vent support.
2. Without detaching the wiring, check, by means of a warning lamp, that the current flows to the terminals of cigar lighter casing and check wiring good conditions.

3. If the lamp illuminates, and the cigar lighter is faulty, replace only the cigar lighter. If not so, replace both cigar lighter and its casing (refer to: Removal and Installation).

REAR CIGAR LIGHTER

Location

It is inserted in the rear part of central console.

Lamp replacement

1. Remove central console rear part.
2. Lower and withdraw lampholder from its seat in the transparent cover, and replace the bulb.
3. Install by reversing the order of removal.

ELECTRICAL SYSTEM

CONTROL SWITCHES FOR SEAT BACKS INCLINATION

Location

The switches are inserted, together with the cigar lighter, in the panel on the central console.

Removal and installation

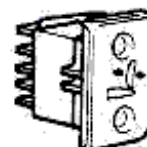
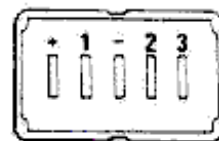
1. By means of a suitable tool, withdraw the switch casing from the related housing, taking care not to damage it.
2. Detach wiring and remove the switch.

3. Install the switch by reversing the order of removal and pressure-inserting it into its housing.

Check

Check the switch functioning ensuring that the electric continuity between terminals occurs in accordance with the indications given in the table.

- (1) Check the electric continuity in the two possible positions of the switch.



	OFF	ON (1)
+		
1		
-		
2		
3		

SEAT BACKS ADJUSTMENT MOTORS

Check

By means of a warning lamp, verify that, with the control switch in the

contact position, the current flows to motor terminals.

If not so, replace the motor.

SEAT BELT CONTROL UNIT

Location

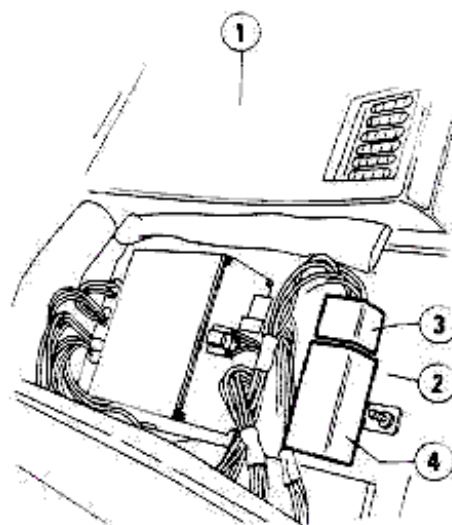
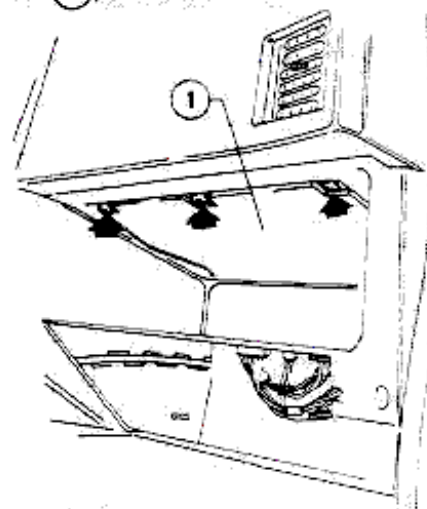
This device is located inside the dashboard, on the lid above the right glove box.

Removal and installation

1. Remove the glove box. Unscrew the three screws securing lid (1), and overturn it.

2. Unscrew the two nuts securing seat belt control unit (4), disconnect wiring (3), and remove control unit.

3. Install the device on vehicle, by reversing the order of removal.

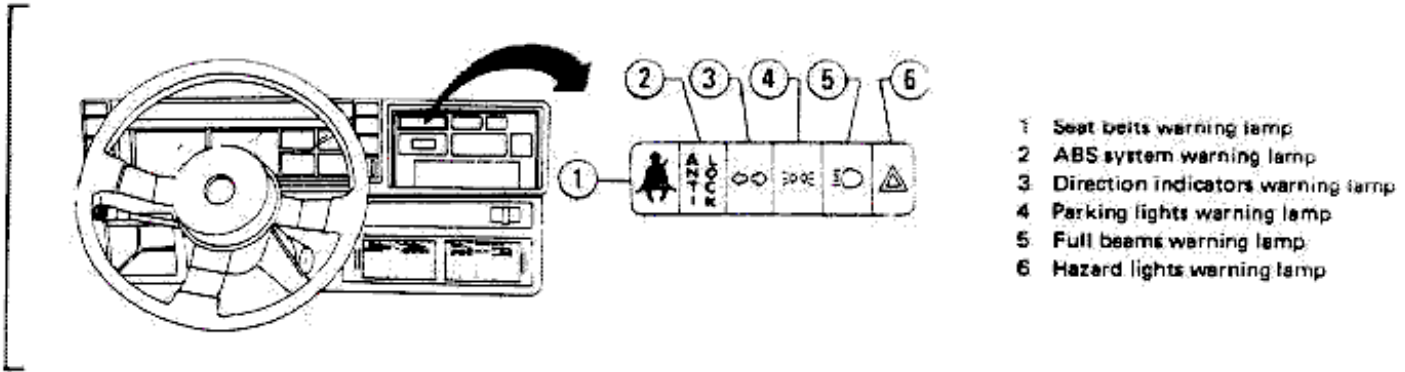


- 1 Dashboard 3 Wiring
2 Lid 4 Seat belt control unit

WARNING LAMP PANEL

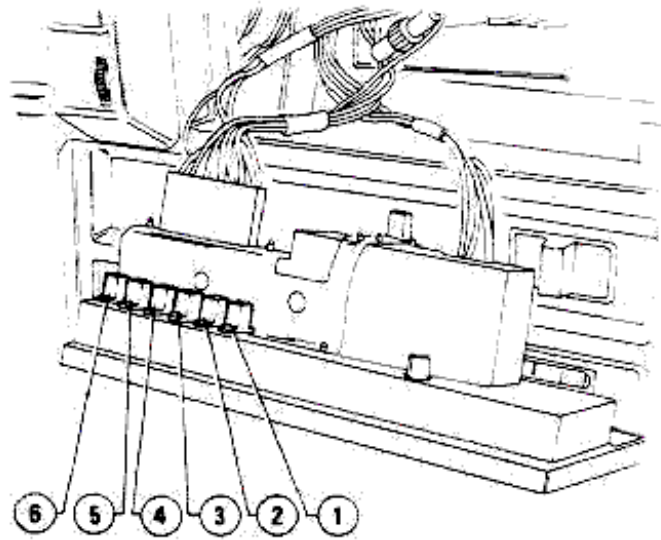
CAUTION:

As regards the warning lamp panel wiring diagram, refer to the diagrams related to the single functions.



Location:

The warning lamp panel is located on the instrument panel on cluster right side.



WARNING LAMPS

Replacement

1. Remove the ashtray and unscrew the two screws securing ashtray seat and instrument panel to dashboard.
2. Remove the instrument panel without disconnecting wiring.
3. Rotate and remove lampholder and replace the warning lamp

- 1 Lampholder for hazard lights warning lamp
- 2 Lampholder for full beams warning lamp
- 3 Lampholder for parking lights warning lamp
- 4 Lampholder for direction indicators warning lamp

- 5 Lampholder for ABS system
- 6 Lampholder for seat belts warning lamp

4. Carry out installation by reversing the order of removal.

WARNING LAMP CIRCUIT

Removal and installation

1. Remove instrument panel and disconnect wiring.

ELECTRICAL SYSTEM

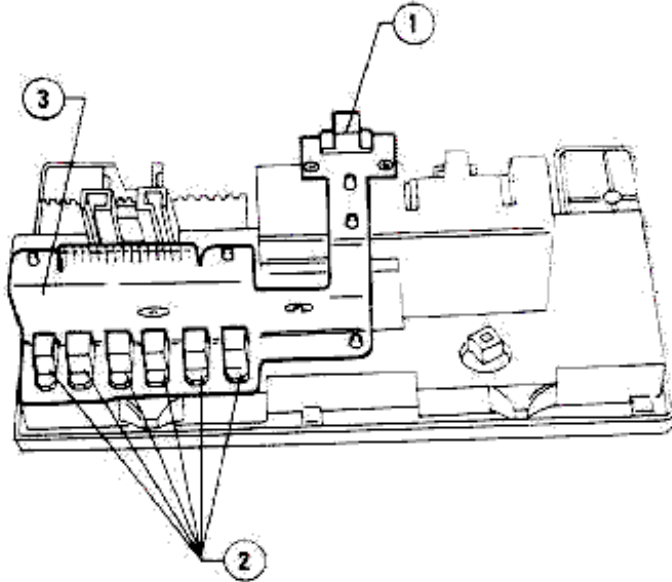
2. Rotate and remove warning lampholder ②, and lighting lampholder ①.
3. Remove warning lamp circuit ③ releasing it from the plastic

pins and lampholders seat.

4. Install the lampholder circuit, by inserting terminals correctly into their seats.

CAUTION:

Operate carefully to prevent damaging the printed circuit board.



- 1 Lighting lampholder
2 Warning lampholder

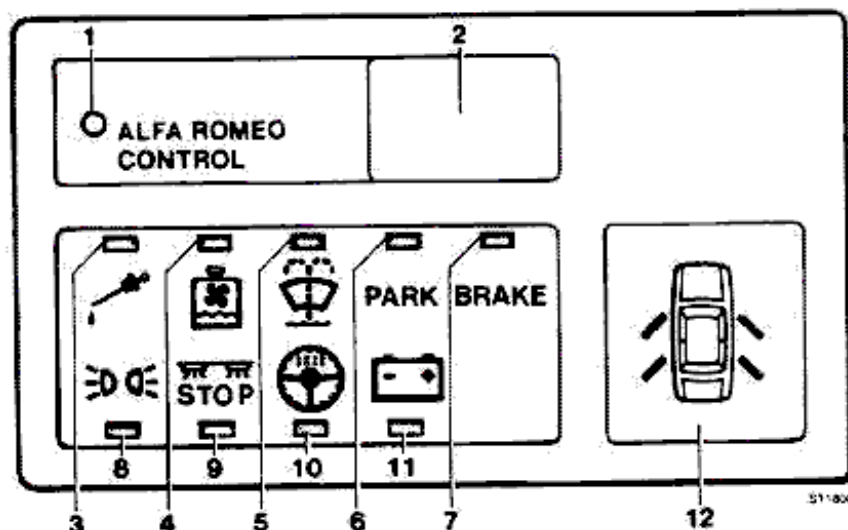
- 3 Warning lamps supply circuit

ELECTRICAL SYSTEM

ALFA ROMEO CONTROL DISPLAY

The activated function is indicated by a red LED.

For easier comprehension of the symbols used, refer to the ALFA ROMEO Control indications.



- 1 Red alarm warning lamp disable key
- 2 General red alarm warning lamp
- 3 Engine oil level warning lamp
- 4 Coolant level warning lamp
- 5 Windshield washer liquid level warning lamp
- 6 Parking brake efficiency warning lamp
- 7 Brake oil level and pad wear warning lamp
- 8 Parking/rear fog lights efficiency warning lamp

- 9 Stop lights efficiency warning lamp
- 10 Cluster warning lamps efficiency warning lamp

- 11 Generator efficiency warning lamp
- 12 Door lock efficiency warning lamp

Location

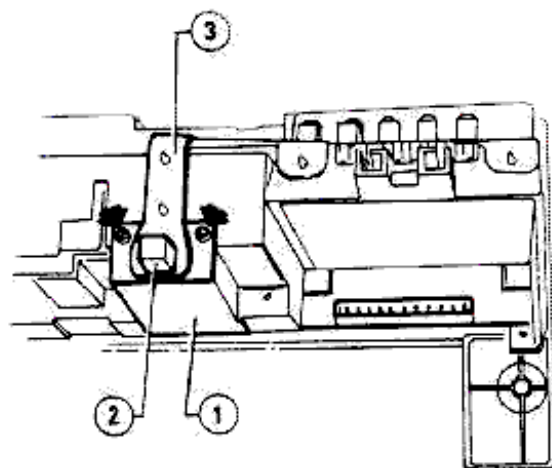
The ALFA ROMEO Control display is housed on the instrument panel, on cluster right side.

Removal and installation

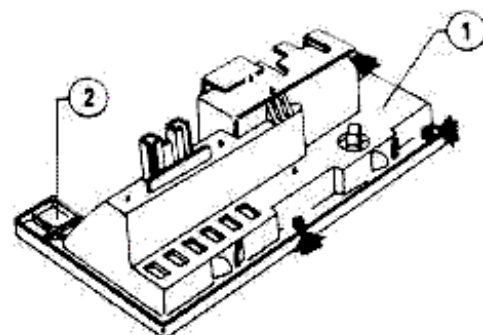
1. Remove instrument panel and disconnect wiring.
2. Remove clock (refer to: Clock - Removal and Installation).

3. Rotate and remove lighting lampholder (2)
4. Unscrew the two screws shown in the figure and remove transparent cover (1), taking care to avoid damaging printed circuit board (3).
5. Remove the warning lamp circuit (refer to: Warning Lamp Panel - Warning Lamp Circuit).

6. Unscrew the three screws securing display (1) to instrument panel (2).



- 1 Transparent cover
- 2 Lighting lampholder
- 3 Warning lamps circuit



- 1 ALFA ROMEO Control display
- 2 Instrument panel

7. Separate display from panel, recovering the transparent cover.
8. Install display by reversing the order of removal.

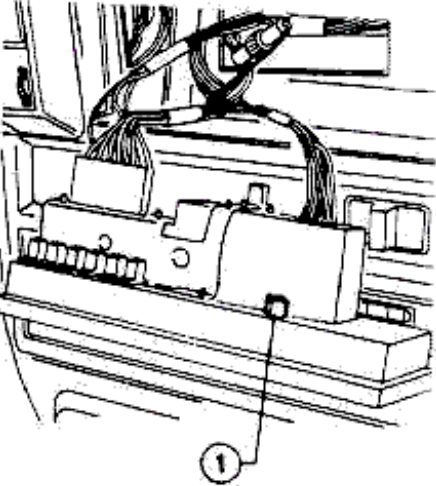
Take care to position the transparent cover correctly.

ELECTRICAL SYSTEM

9. Carry out the final device inspection.

Replacement of general alarm warning lamp

1. Remove instrument panel without disconnecting wiring.
2. Rotate and remove lampholder ①, and replace the bulb.



1 General alarm warning lamp lampholder

3. Install panel by reversing the order of removal.

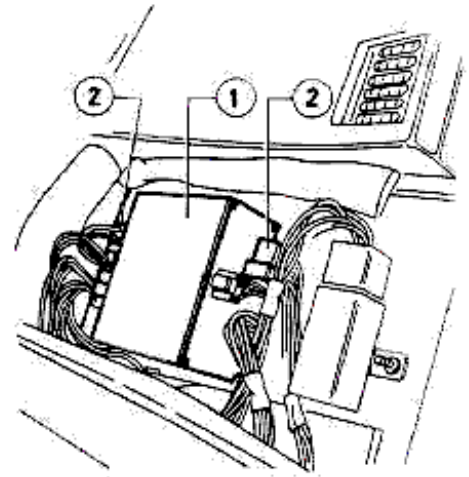
ALFA ROMEO CONTROL CONTROL UNIT

Location

It is housed inside the dashboard on the lid above the right glove box.

Removal and installation

1. Unscrew the screws securing the lid and overturn it (refer to: Electric accessories - Seat belt control unit).
2. Unscrew the two nuts securing control unit ①, disconnect wiring ②, and disconnect control unit.



1 ALFA ROMEO Control control unit
2 Wiring

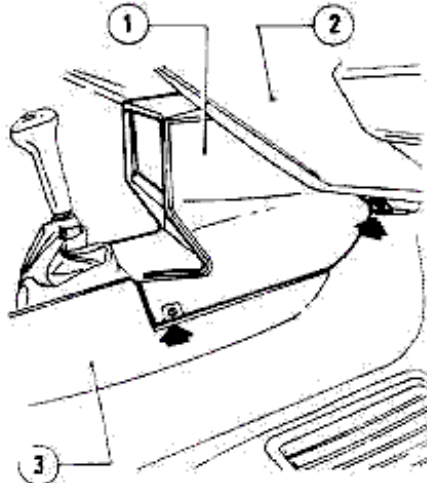
3. Carry out installation by reversing the order of removal.
4. Inspect the device (refer to: Group 43 - ALFA ROMEO Control).

CRUISE CONTROL

CONTROL UNIT

Removal and installation

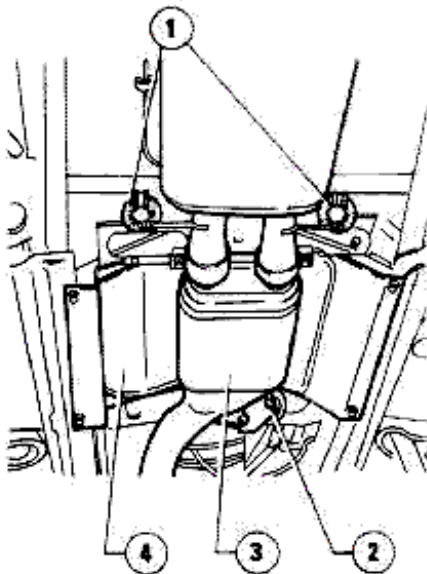
1. Unscrew the four screws securing the radio console (1) to central console (3) and dashboard (2), and remove radio console.



- 1 Radio console
- 2 Dashboard
- 3 Central console

2. For vehicles fitted with automatic transmission, proceed as follows:

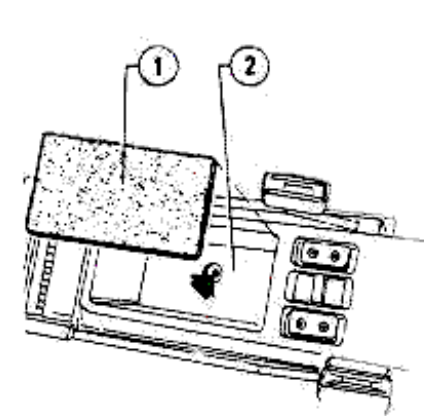
- a. Raise the vehicle on a lift.
- b. Unhook support rings (1) securing the central part of the exhaust pipe, and unscrew bolt (2).
- c. Unscrew the screws securing heat shield (4), pull catalytic converter (3) downwards and slide out heat shield (4) from the left side.



- 1 Support rings
- 2 Rubber bushing bolt securing front of exhaust pipe
- 3 Catalytic converter
- 4 Heat shield

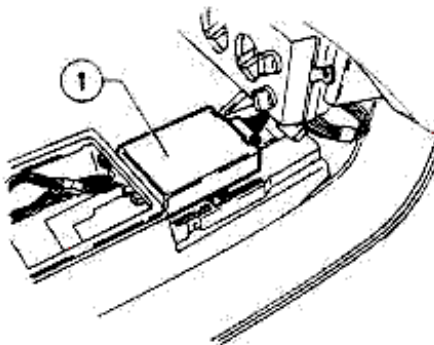
d. Unhook the lower ball joint of the speed selector lever, then lower the vehicle and remove the lever, working from the inside of the passenger compartment.

3. Remove trim (1) and unscrew the screw securing the rear part of central console to the body. Remove rear part (2), and disconnect the wiring.



- 1 Trim
- 2 Rear part of central console

4. Unscrew the two screws securing control unit (1) and remove it, disconnecting the wiring.



- 1 Control unit

5. Reinstall by reversing the removal procedure.

RELAY

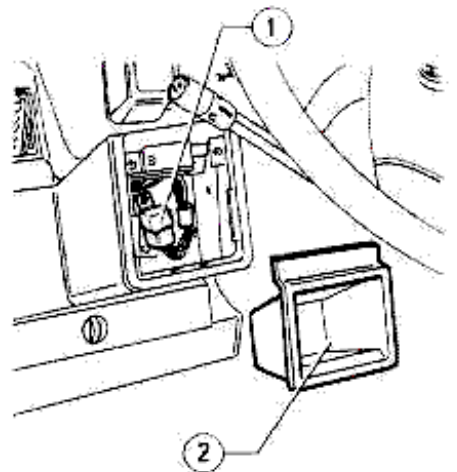
Location

The relay is located behind the dash panel to the left of the steering column.

Removal and installation

1. Remove glove box profile (2) located to the left of the steering column.

2. Unscrew the securing screw, remove relay (1) and disconnect it from the wiring.



- 1 Cruise control system relay
- 2 Glove box profile

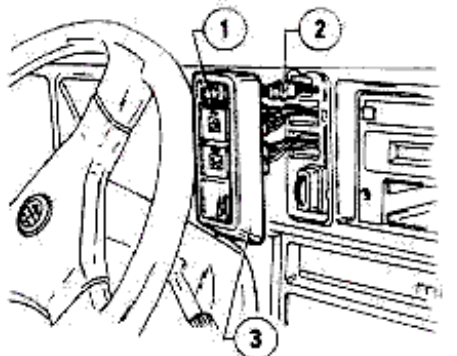
PUSHBUTTONS

Removal and installation

1. Remove pressure-inserted frame (3) from the instrument panel.

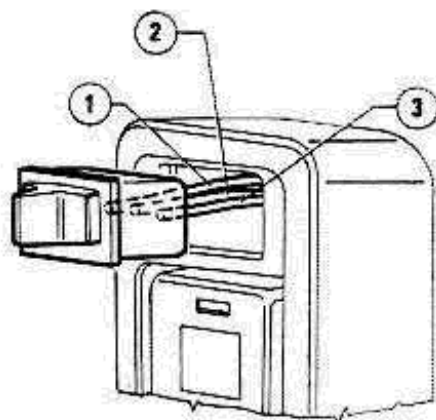
2. Disconnect connector (2)

3. Remove pushbutton (1) from frame (3).



- 1 Pushbutton
- 2 Connector
- 3 Frame

4. Reinstall by reversing the removal procedure, taking care to position the pushbutton correctly on the frame in accordance with the electric cable colour code as listed below.



Acc set/dec set pushbutton

Cable position	Colour
Left ①	Grey-green
Central ②	Pink-white
Right ③	Grey-yellow

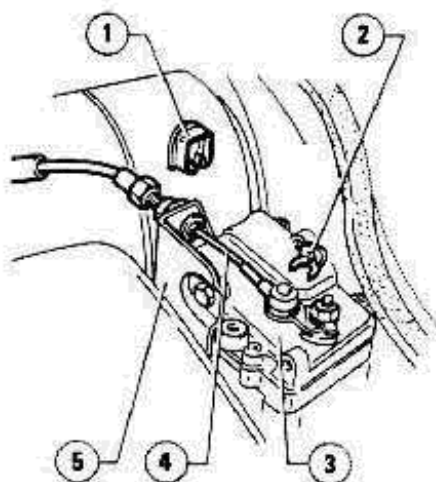
Off/resume pushbutton

Cable position	Colour
Left ①	Blue-black
Central ②	Pink-white
Right ③	Grey-red

ACTUATOR

Removal and installation

1. Unhook retaining rings ① and ②, disconnect the end of cable ④ from lever on actuator ③, and release the cable from bracket ⑤.

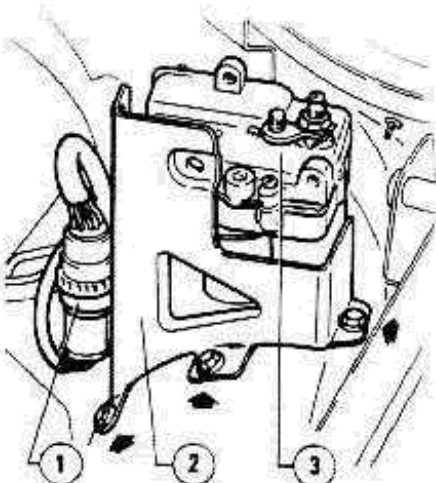


- 1 Retaining ring securing sheath
- 2 Retaining ring securing cable end
- 3 Actuator
- 4 Cable
- 5 Bracket

2. Unscrew the two screws securing the washer reservoir, and move it forwards a few centimeters.

3. Disconnect connector ① of the actuator and release it from the plastic clamp.

4. Unscrew the three screws indicated in the figure and remove bracket ② together with actuator ③.



- 1 Connector
- 2 Bracket
- 3 Actuator

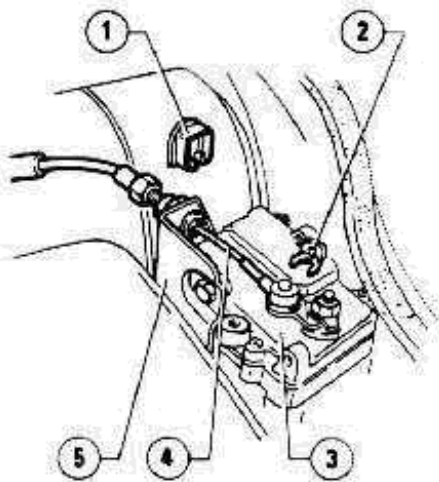
5. Unscrew the three screws securing the actuator to the support bracket and separate.

6. Reinstall the actuator by reversing the order of removal, then adjust the control cable (see: Actuator cable - Adjustment).

ACTUATOR CABLE

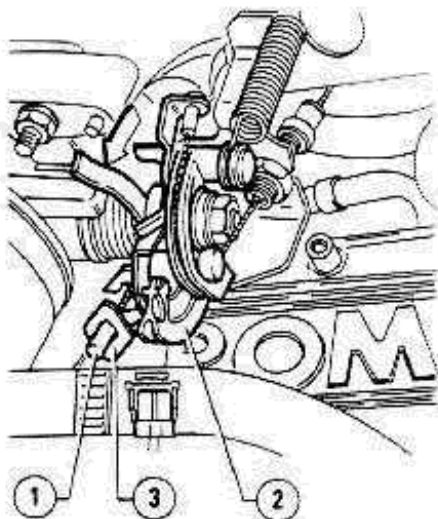
Removal and installation

1. Unhook support rings ① and ②, disconnect the end of cable ④ from lever on actuator ③, and release the cable from bracket ⑤.



- 1 Retaining ring securing sheath
- 2 Retaining ring securing cable end
- 3 Actuator
- 4 Cable
- 5 Bracket

2. Rotate accelerator control cam ②, extract plastic clip ③ and slide out cable ① sideways.



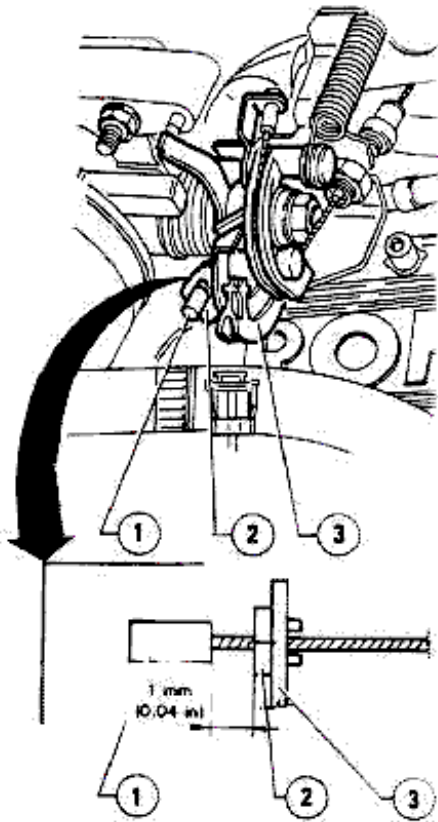
- 1 Actuator cable
- 2 Accelerator control cam
- 3 Plastic clip

ELECTRICAL SYSTEM

3. Remove the cable together with sheath, sliding it out from under the air intake box.
4. Reinstall the cable by reversing the order of removal, then adjust the control cable (see: Adjustment).

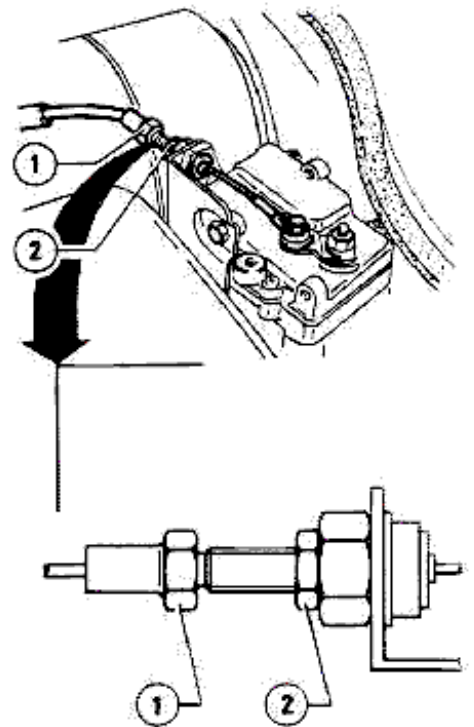
Adjustment

1. With accelerator control cam (3) in the rest position, check there is a backlash of 1 mm (0.04 in) between the travel end detent (1) and plastic clip (2).



- 1 Cable end detent
- 2 Plastic clip
- 3 Accelerator control cam

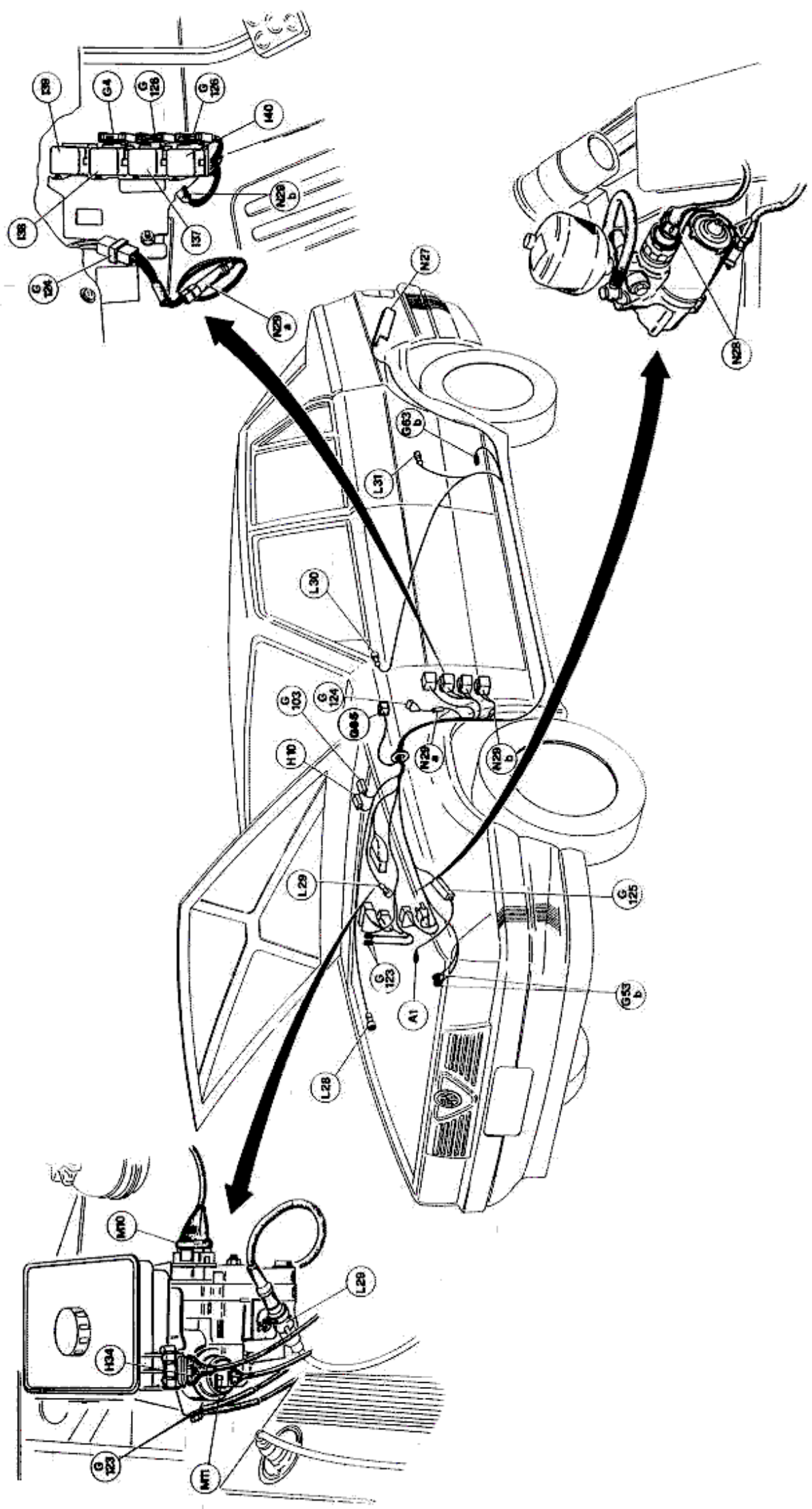
2. If the value is not the same as that specified, loosen lock nut (2) and unscrew or tighten tie rod (1) until the value specified in step 1. is obtained. Relock lock nut (2).



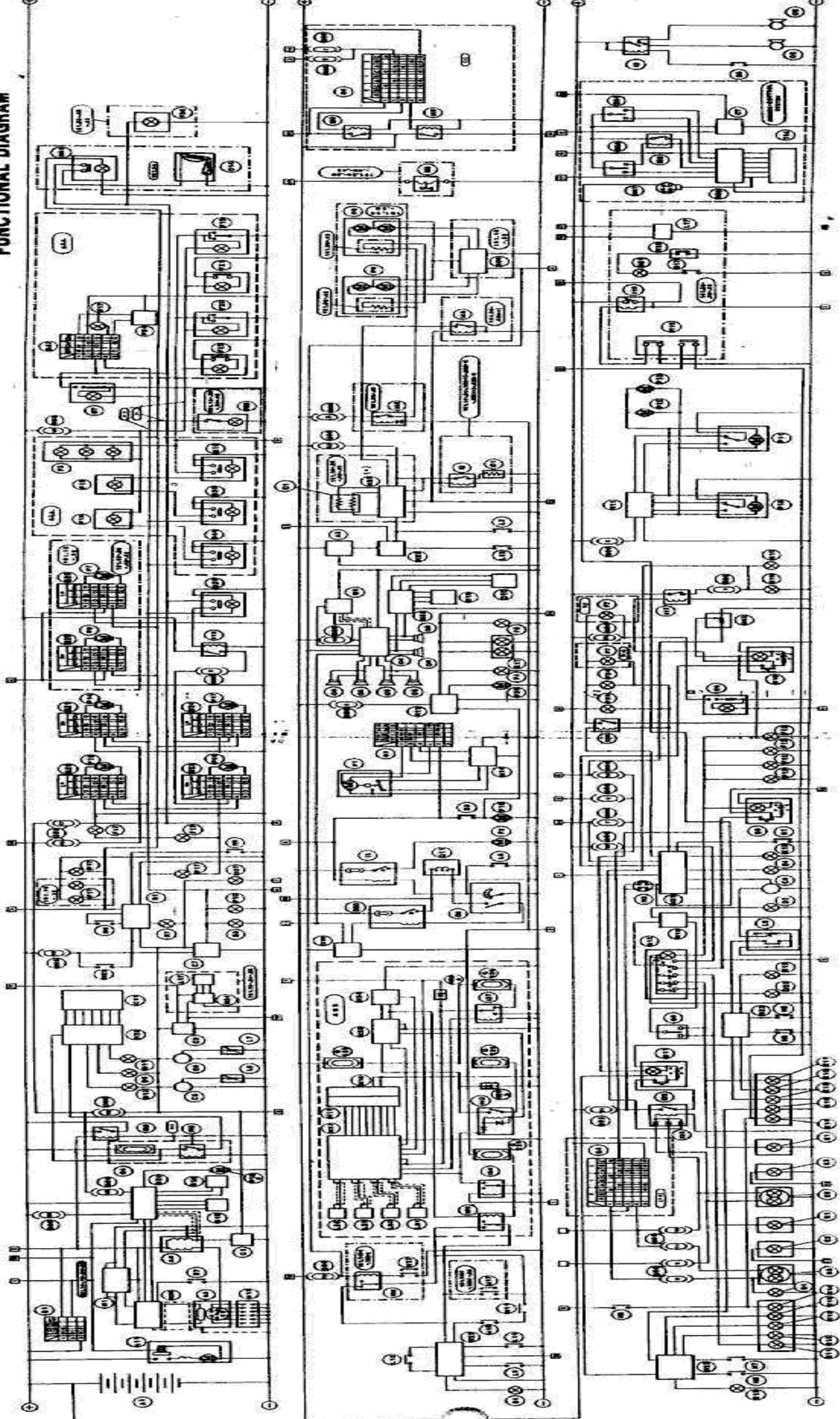
- 1 Adjustment tie rod
- 2 Lock nut

WIRING

MARK II WHEEL ANTI-LOCK BRAKING SYSTEM (ABS) WIRING



FUNCTIONAL DIAGRAM



(*) * From sheet No. 10 of the set
 (**) * From sheet No. 11 of the set
 A.A. * For further details see
 A.B. * For further details see
 A.C. * For further details see
 A.D. * For further details see

KEY TO WIRING DIAGRAM

A: STARTING - CHARGING

- A1 Battery
- A2 Alternator
- A3 Alternator with integral electronic voltage regulator
- A4 Voltage regulator
- A5 Ignition distributor
- A5a Ignition distributor A
- A5b Ignition distributor B
- A6 Pulse generator
- A7 Rotor
- A8 Ignition coil
- A8a Ignition coil A
- A8b Ignition coil B
- A9 Coil resistor
- A10 2-way connector for coil
- A11 Starter motor
- A12 Spark plugs
- A13 Pre-heating glow plugs
- A14 Alternator cable terminal board

B: MANUAL ELECTRIC CONTROLS

- B1 Ignition switch
- B2 Windscreen wiper control switch
- B3 Windshield washer and/or headlamp wash/wiper pump control switch
- B4 Control switch for side lights, flashing, low/full beam headlamps
- B5 Horn control switch
- B6 Direction indicators control switch
- B7 Low beam flashing control switch
- B8 Full beam flashing control switch
- B9 Heated rear window control switch
- B10 Fog lamp control switch
- B11 Rear fog lamp control switch
- B12 Road hazard lights control switch
- B13 Passenger compartment front roof lamp control switch
- B14 Passenger compartment rear roof lamp control switch
- B15 Passenger compartment roof lamp control switch
- B16 Cluster lighting dimmer rheostat
- B17 Gearbox oil level warning lamp switch
- B18 Door lock control switch on front right door
- B19 Door lock control switch on front left door
- B20 Interior door locking switch
- B21 Front right power window control switch
- B22 Front left power window control switch
- B23 Rear right power window control switch
- B24 Rear left power window control switch
- B25 Rear power window inhibitor switch
- B26 Rear power window and rear cigar lighter inhibitor switch
- B27 Front seat height control switch
- B28 Front left backrest control switch
- B29 Front right backrest control switch
- B30 Door mirror control switch
- B31 Antenna control switch
- B32 Windshield washer pump control
- B33 Front spot light switch
- B34 Rear left spot light switch
- B35 Rear right spot light switch
- B36 Door mirror double control switch
- B37 Parking light control switch
- B38 Rear window wiper control switch
- B39 Trip odometer recall microswitch
- B40 Trip odometer reset microswitch
- B41 VF electronic rheostat

- B42 Lamp dimmer rheostat
- B43 Internal control switch for door unlock
- B44 Rear spot light control switch
- B45 Identification light control switch
- B46 Two note horns - normal horns control switch
- B47 Sun roof motor control switch
- B48 Intercom system control switch
- B49 Speak/listen changeover switch
- B50 Siren control switch
- B51 Driver's seat heater control switch

C: INSTRUMENTS

- C1 Electronic rev counter
- C2 Electronic speedometer
- C3 Voltmeter
- C4 Fuel level gauge
- C5 Oil pressure gauge
- C6 Coolant temperature gauge
- C7 Clock
- C8 Space free for instrument
- C9 Turbocharger air pressure gauge
- C10 Cluster (*)
- C11 ALFA ROMEO Control display
- C12 Performance gauge display
- C13 Optoelectronic cluster
- C14 Warning lamp panel
- (*) C10 A/B/C/D/E/F Cluster connectors

D: WARNING LAMPS

- D1 Alternator charge warning lamp
- D2 Direction indicator warning lamp
- D3 Side light warning lamp
- D4 Full beam warning lamp
- D5 Brake fluid low level warning lamp
- D6 Heater/ventilation warning lamp
- D7 Handbrake warning lamp
- D8 Fuel reserve warning lamp
- D9 Choke warning lamp
- D10 Handbrake ON - brake fluid level warning lamp
- D11 Engine oil minimum pressure warning lamp
- D12 Pre-heating glow plug warning lamp
- D13 Engine coolant high temperature warning lamp
- D14 Maximum air pressure warning lamp
- D15 Minimum fuel pressure warning lamp
- D16 Free warning lamp
- D17 Gear position warning lamp
- D18 Manual injection advance warning lamp
- D19 Brake pad wear warning lamp
- D20 Rear drive engagement warning lamp
- D21 ALFA ROMEO Control warning lamp
- D22 Heated rear window warning lamp
- D23 Hazard lights warning lamp
- D24 Rear fog light warning lamp
- D25 Fog light warning lamp
- D26 Injection diagnosis warning lamp
- D27 A.B.S. system warning lamp
- D28 Identification light warning lamp
- D29 Ignition diagnosis warning lamp (anti-knocking)

E: EXTERNAL LIGHTS

- E1 Front direction indicator

ELECTRICAL SYSTEM

E: EXTERNAL LIGHTS (continued)

E2	Front side light
E3	Front direction indicator and side light
E4	Front side marker light
E5	Low beam light
E6	Low beam light with incorporated side light
E7	Full beam light
E8	Low and full beam light
E9	Side repeater
E10	Fog light
E11	Rear direction indicator
E12	Rear side marker light
E13	Rear parking light
E14	Reversing light
E15	Stop light
E16	Rear fog lamp
E17	Numberplate light
E18	Stop and rear side light
E19	Rear right light
E20	Rear left light
E21	Inspection light
E22	Identification light

F: INTERIOR LIGHTS

F1	Passenger compartment front roof lamp
F2	Passenger compartment rear roof lamp
F3	Passenger compartment roof lamp
F4	Engine compartment lamp
F5	Luggage compartment lamp
F6	Door open signalling light
F7	Fuse light
F8	Heater/ventilation controls lighting lamp
F9	Glovebox light
F10	Ashtray light
F11	Map light
F12	Cluster light
F13	Front spot light
F14	Rear right spot light
F15	Rear left spot light
F16	Ignition switch light
F17	Switch illumination light
F18	Rear spot light
F19	Passenger compartment roof lamp - right side
F20	Passenger compartment roof lamp - left side
F21	Reading spot light with switch - right side
F22	Reading light with switch - left side
F23	Floor lighting lamp on right internal valance panel
F24	Floor lighting lamp on left internal valance panel
F25	Vanity mirror roof lighting on sun visor
F26	Transmission lever panel lighting lamp

G: FUSEBOX - CONNECTORS - GROUNDS

G1	Fusebox
G2	Auxiliary fusebox
G3	Fusebox terminal
G4	Free fusebox
G5	Multiple connector
G6	Multiple connector B - cluster
G7	Multiple connector R - cluster
G8	Single connector
G9	Connector between front left door wiring and door mirror switch
G10	Connector between front right door wiring and door mirror switch
G11	Connector between board wiring and rear wiring

G12	Connector between board wiring and courtesy mirror switch
G13	Connector between board wiring and console wiring
G14	3-way connector between board wiring and door wiring
G15	2-way connector between board wiring and door wiring
G16	6-way connector between board wiring and door wiring
G17	Connector between board wiring and front right door wiring
G18	Connector between board wiring and front left door wiring
G19	Connector between board wiring and passenger compartment roof lamp
G20	Connector for front right door - locking motor
G21	Connector for front right door wiring
G22	Connector for front left door - locking motor
G23	Connector for front left door wiring
G24	Connector for rear right door - locking motor
G25	Connector for rear right door wiring
G26	Connector for rear left door - locking motor
G27	Connector for rear left door wiring
G28	Connector between front right door wiring and power window switch
G28a	Connector between rear right door wiring and power window switch
G29	Connector between door lock wiring and rear power windows
G30	Connector for power windows and door lock
G31	Connector between front left door wiring and power window switch
G31a	Connector between rear left door wiring and power window switch
G32	Connector between console wiring and rear right door wiring
G33	Connector between console wiring and rear left door wiring
G34	Connector for power window supply cable
G35	Connector between rear wiring and rear right tail light wiring
G36	Connector for power window switch cables
G37	Connector for combination switch on steering column
G38	Connector for air conditioner wiring
G39	Connector for clock
G40	Connector for door lock control unit
G41	Connector for tachymetric switch - rev counter pulse generator
G42	Connector between alternator and min engine oil pressure switch
G43	Connector for heater/ventilation control cables
G44	Connector for rear fog lamp
G45	Connector for headlight wash/wipe cables
G46	Connector for headlights
G47	Connector for right side - repeater cables
G48	Connector between electric door mirror and left side - repeater cables
G49	Connector available
G50	Provision for loud speaker cables
G51	Provision for car radio cables
G52	Fusebox ground
G53	Engine compartment ground
G53a	Engine compartment ground - right side
G53b	Engine compartment ground - left side
G54	Passenger compartment ground
G54a	Passenger compartment ground - right side
G54b	Passenger compartment ground - left side
G55	Valance panel ground
G56	Branch terminal board
G57	Provision for fuel cut-off solenoid valve
G58	Connector for cigar lighter
G59	Connector for electric door mirror
G60	Injection wiring ground
G61	Connector for ignition coil
G62	Clutch switch connector

ELECTRICAL SYSTEM

G: FUSEBOX - CONNECTORS - GROUNDS (continued)

G63 Rear ground
 G63a Rear right ground
 G63b Rear left ground
 G64 Connector for Trip Computer - clock
 G65 Coaxial cable
 G66 Motronic wiring ground
 G67 Motronic connector
 G68 Connector A with board wiring
 G69 Connector B with board wiring
 G70 Connector C with board wiring
 G71 Connector for warning lamp on instruments
 G72 Connector for seat back adjustment wiring
 G73 Connector for rear services
 G73a Connector for right rear services
 G73b Connector for left rear services *Behind Fuse Box - Top Left*
 G74 Connectors between Televel rear wiring and ALFA ROMEO Control
 G75 Connector between right and left roof panel services
 G76 Connector for roof panel services - right side
 G77 Connector for roof panel services - left side
 G78 Connector for front door services wiring
 G79 Connector for rear door services wiring
 G80 Connector for board wiring
 G81 Connector for front left seat back adjustment
 G82 Connector for front right seat back adjustment
 G83 Rear connector for fast idle device
 G84 Console cable connector
 G84a Console cable connector (15 way)
 G84b Console cable connector (12-way)
 G85 Front services connector
 G86 Connector for passenger compartment roof lamp
 G87 Connector for rear door - locking motors
 G88 Connector for rear tail lights
 G89 Intermediate connector A
 G90 Intermediate connector B
 G91 Rear door sensors ground
 G92 Luggage compartment ground
 G93 Windshield frame upper cross member ground
 G94 Engine compartment connector
 G94a 10-way connector for engine compartment
 G94b 8-way connector for engine compartment
 G94c Engine compartment connector - right side
 G94d Engine compartment connector - left side
 G95 Central fusebox
 G95A Connector for switches
 G95B Connector for switches
 G95C Connector for cluster warning lamps
 G95D Connector for ALFA ROMEO Control
 G95E Connector for console
 G95F Connector for fog light - rear fog light
 G95G Connector for combination switch
 G95H Connector for LH interface
 G95I Connector for RH interface
 G95L Connector for clock - rheostats
 G95M Connector for sun - roof
 G95N Connector for battery
 G95O Connector for ignition switch
 G95P Connector for door services
 G95Q Connector for performance gauge
 G95R Connector for heated rear window
 G95S Connector for cluster
 G95V Fuses
 G96 Single connector for ALFA ROMEO Control cluster
 G97 Connector for left doors services
 G98 Connector for right doors services
 G99a Connector for engine dashboard (A)
 G99b Connector for engine dashboard (B)
 G99c Connector for engine dashboard (C)
 G99d Connector for engine dashboard (D)

G99e Connector for engine dashboard (E)
 G100 Connector for console - doors wiring
 G101 Trip Computer connector
 G102 Optoelectronic cluster connector
 G103 Connector for grounds and brakes fluid tank
 G104 Connector for roof panel left pillar
 G105 Connector for ashtray lamp
 G106 Seat grounds
 G107 Connector for fuel pump
 G108 CEM wiring ground
 G109 Injection wiring ground
 G110 Thermostat housing ground
 G111 Connector for dashboard instruments wiring
 G112a Connector A for roof wiring
 G112b Connector B for roof wiring
 G112c Connector C for roof wiring
 G112d Connector D for roof wiring
 G112e Connector E for roof wiring
 G113 Connector for front left-hand tender
 G114 Connector for outside temperature sensor
 G115 Connector for tow bar vehicle socket
 G116 Connector for tow bar trailer plug
 G117 Connector for engine compartment lamp
 G118 Connector for luggage compartment lamp
 G119 Connector for vanity mirror roof lamp
 G120 Connector for map reading lamp
 G121 Connector for vehicle wiring
 G122 Connector for ignition wiring
 G123 Pedal assembly ground
 G124 Connector for A.B.S. system
 G125 A.B.S. system free fuse holder
 G126 Fuse protecting A.B.S. system relays
 G127 Free fuse holder for identification lights
 G128 Free fuse holder for transceiver
 G129 Connector for two-note horns - normal horns in engine compartment left side
 G130 Switches connector
 G131 Ground on upper cover
 G132 Ground on manifold
 G133a Electronic injection - ignition wiring connector A
 G133b Electronic injection - ignition wiring connector B
 G134 Left front pillar connector
 G135 Rear window shelf wiring connector
 G136 Front side marker intermediate connector
 G137 Injection supply wiring connector
 G138 Headlights - combination switch connector
 G139 Intercom system control unit connector
 G140 Gasoline pump attachment to floor services intermediate connector
 G141 Intermediate connector for rear sidemarker
 G142 Engine services connector
 G143 Central bulkhead ground
 G144 Backdoor wiring connector

H: SWITCHES

H1 Handbrake switch
 H2 Reversing light switch
 H3 Stop light switch
 H4 Passenger compartment roof lamp switch on pillar
 H5 Left front door open indicator switch
 H6 Right front door open indicator switch
 H7 Left rear door open indicator switch
 H8 Right rear door open indicator switch
 H9 Right front brake pad switch
 H10 Left front brake pad switch
 H11 Right rear brake pad switch
 H12 Left rear brake pad switch
 H13 Choke switch
 H14 Injection advance switch
 H15 Gearbox oil low level switch (magnetic bulb)
 H16 Starting and back-up inhibitor switch

ELECTRICAL SYSTEM

H: SWITCHES (continued)

- H17 Brake fluid minimum level check switch
- H18 Fast-idle switch in gearbox
- H19 Low fuel pressure switch
- H20 Inertia switch
- H21 Clutch pedal fast idle switch
- H22 Ignition microswitch
- H23 Engine compartment lamp switch
- H24 Luggage compartment lamp switch
- H25 Glovebox light switch
- H26 Contact switch on rear door for rear window wiper
- H27 Contact switch on rear door for heated rear window
- H28 Carburettor contact/switch
- H29 Switch for rear drive engagement warning lamp
- H30 R.p.m. - activated microswitch
- H31 Switch for idle r.p.m. adjusting screw on carburettor
- H32 Microswitch on carburettor for inserting timing variator
- H33 Numberplate lights contact switch
- H34 A.B.S. system brake fluid tank switch
- H35 Fuel pre-heating filter thermal switch
- H36 Diesel fuel post-heating microswitch

I: RELAYS

- I1 Engine cooling fan relay
- I2 Heated rear window relay
- I3 Horn relay
- I4 Headlamp wiper relay
- I5 Auxiliary relay for headlight wiper timer
- I6 Fast idle relay
- I7 Fuel pipe closing relay
- I8 Relay excluding retarded rotor arm
- I9 Glow plug relay
- I10 Starter inhibitor relay
- I11 Front power window and seat raising relay
- I12 Front power window relay
- I13 Rear power window relay
- I14 Brake fluid automatic warning lamp control relay
- I15 Low fuel pressure warning light relay
- I16 Headlight relay
- I17 Fog light relay
- I18 Double contact relay
- I19 Headlight washer pump relay
- I20 Beam changeover relay
- I21 Full beam exclusion relay
- I22 Low beam exclusion relay
- I23 Supplementary engine cooling fan relay
- I24 Direction and hazard lights relay
- I25 Rear fog light relay
- I25 Roof lamp relay
- I27 Seat height adjustment relay
- I28 Hazard lights relay
- I29 Fuel pump relay
- I30 Relay with CEM diode
- I31 Front power windows/heater relay
- I32 Advance variation control unit relay
- I33 Carburettor microswitch relay
- I34 Rear fog light exclusion relay
- I35 Key operated supply relay
- I36 Relay for brake wear and liquid level
- I37 Relay for A.B.S. system control unit
- I38 Auxiliary A.B.S. system relay
- I39 Brake fluid level warning lamp relay
- I40 A.B.S. system brake fluid pump relay
- I41 Two note horns - normal horns relay
- I42 Two note horns relay
- I43 Inspection lamp relay
- I44 Fuel pre heating device relay
- I45 External rearview mirrors defrosting relay

- I46 Siren relay
- I47 Oil radiator electric fan relay
- I48 Key - operated relay for ALFA ROMEO Control and instruments
- I49 Lo - beam relay
- I50 Hi - beam relay

L: SENDERS

- L1 Low fuel pressure sender
- L2 Low oil pressure sender
- L3 Max air pressure sender
- L4 Thermal switch for engine cooling electromagnetic coupling
- L5 Thermal switch for engine coolant max temperature warning lamp
- L6 Thermal switch for engine cooling electric fan
- L7 Engine coolant temperature gauge sender
- L8 Oil pressure gauge sender
- L9 Fuel level gauge sender
- L10 Sender for engine coolant temperature gauge and max temperature warning lamp contact
- L11 Retarded rotor arm cut-out pressure switch
- L12 Engine oil level sensor
- L13 Windscreen washing liquid level sensor
- L14 Engine coolant level sensor
- L15 Fuel flow sensor
- L16 Rev counter pulse generator
- L17 Speedometer pulse generator
- L18 Load sender
- L19 External temperature sensor
- L20 Photoelectric cell
- L21 Pierburg valve (Solenoid valve regulating the supercharging pressure)
- L22 Knocking sensor
- L23 Potentiometer
- L24 Coolant temperature sensor for ignition advance adjustment
- L25 Thermal switch for engine coolant temperature
- L26 Vacuum sensor
- L27 Temperature sensor
- L28 Front right brake sensor
- L29 Front left brake sensor
- L30 Rear right brake sensor
- L31 Rear left brake sensor
- L32 Supercharging air pressure sender
- L33 Two-level thermal switch

M: SOLENOIDS - SOLENOID VALVES

- M1 Fuel cut-off solenoid valve
- M2 Injection pump solenoid valve
- M3 Solenoid with injection pump fuel cut-off microswitch
- M4 Fast idle solenoid
- M5 Engine stop solenoid
- M6 Fuel pipe closing solenoid
- M7 Door opening/closing solenoid
- M8 Auxiliary air device (for A/C equipped car)
- M9 Pierburg solenoid valve (for idle r.p.m.)
- M10 Brake fluid adjustment valves
- M11 Main A.B.S. valve

N: ELECTRONIC DEVICES - INTERMITTENCES - TIMERS

- N1 Electronic ignition module
- N1a Electronic ignition module A
- N1b Electronic ignition module B
- N2 Connector for Marelli module
- N3 Capacitor for electronic ignition
- N4 Connector for Bosch module
- N5 Tachymetric switch device
- N6 Pre heating glow plug timer
- N7 Trip Computer
- N8 ALFA ROMEO Control

ELECTRICAL SYSTEM

N: ELECTRONIC DEVICES - INTERMITTENCES - TIMERS (continued)

- N9 Brake pad wear control unit
- N10 Roof lamp timer
- N11 Door lock control unit
- N12 Headlamp wiper timer
- N13 Road hazard and direction indicators intermittence
- N14 Electronic windscreen wiper intermittence
- N15 Electronic windscreen wiper intermittence and warning light control
- N16 Tachymetric control unit
- N17 Trip control unit for fuel flow
- N18 Electronic device for headlamps and flashing switching
- N19 Performance gauge control unit
- N20 Advance variation control unit
- N21 Power module
- N22 ALFA ROMEO Control control unit
- N23 Ignition control unit
- N24 Pulse converter
- N25 Rear fog light device
- N26 Brake pad wear warning lamp intermittence device
- N27 A.B.S. system control unit
- N28 Brake fluid pump device
- N29 Free diode holder connection
- N29a Free diode holder connection A
- N29b Free diode holder connection B
- N30 Two-note horns control unit
- N31 Fuel pre-heating device
- N32 Headphones connection control unit
- N33 Sectorised heated rear window defrost control unit
- N34 Pulse generator control unit
- N35 Coding control unit
- N36 intercom system control unit

O: ANCILLARY EQUIPMENT

- O1 Heated rear window
- O2 Horn
- O3 Electrically-operated antenna
- O4 Radio
- O5 Speaker
- O6 Cigar lighter
- O7 Rear cigar lighter
- O8 Two-note horns
- O9 Transceiver
- O10 Rear headphones
- O11 Siren
- O12 External loudspeaker - microphone
- O13 Internal loudspeaker - microphone
- O14 Driver's seat heating pads

P: ELECTRIC MOTORS

- P1 Windshield wiper motor
- P2 Engine cooling fan motor
- P3 Engine cooling fan electromagnetic drive
- P4 Headlamp wiper motor
- P5 Front left seat adjustment motor
- P6 Front right backrest adjustment motor
- P7 Front left backrest adjustment motor
- P8 Motor for electric door mirror - right side
- P9 Motor for electric door mirror - left side
- P10 Front right door locking motor
- P11 Front left door locking motor
- P12 Rear right door locking motor
- P13 Rear left door locking motor
- P14 Front right power window motor
- P15 Front left power window motor

- P16 Rear right power window motor
- P17 Rear left power window motor
- P18a Electric fuel pump
- P18b Auxiliary electric fuel pump
- P19 Windscreen washer pump
- P20 Headlamp washer pump
- P21 Rear window wiper motor
- P22 Rear window washer pump
- P23 Supplementary engine cooling fan motor
- P24 Sun roof motor
- P25 Oil radiator electric fan

Q: HEAT/VENT - AIR CONDITIONING SYSTEM

- Q1 Heater/ventilation electric fan
- Q2 Pneumatic pushbutton control for air conditioning
- Q3 Pneumatic pushbutton control for ventilation
- Q4 Heater/ventilation electric fan control
- Q5 Heater/ventilation blower fan speed adjustment resistance
- Q6 Switch on flap for enabling heater blower fan
- Q7 Fluid thermostat
- Q8 Electromagnetic coupling pressure switch
- Q9 Minimum pressure switch
- Q10 Maximum pressure switch
- Q11 Compressor electromagnetic coupling
- Q12 Thermal switch for exclusion of compressor electromagnetic coupling
- Q13 Supplementary conditioner fan
- Q14 Relay for supplementary conditioner fan and electromagnetic compressor coupling
- Q15 Heater/ventilation electric fan relay
- Q16 Relay for simultaneous control of engine cooling fan and supplementary fan
- Q17 Relay for simultaneous control of engine cooling electromagnetic coupling and supplementary fan
- Q18 Heater
- Q19 Air conditioner
- Q20 Min and max pressure switch (Trinary)

R: SAFETY DEVICES

- R1 Seat belt device
- R2 Catalytic converter temperature indicator
- R3 Thermocouple for catalytic converter temperature detection
- R4 Unfastened seat belt buzzer
- R5 Open door buzzer
- R6 Mileometer
- R7 Seat belt warning lamp
- R8 30,000 mile warning lamp
- R9 Switch on seat belts
- R10 Catalytic converter maximum temperature warning lamp
- R11 Front left door switch for seat belt device

S: ELECTRONIC FUEL INJECTION

- S1 Injection control unit
- S2 Relay set
- S3 Injectors
- S4 Cold start-up electroinjector
- S5 Air flow sensor
- S6 Accelerator throttle switch
- S7 Engine coolant temperature sensor
- S8 Thermo-time switch
- S9 Auxiliary air device
- S10 Lambda sensor
- S11 Motronic Control unit

ELECTRICAL SYSTEM

S: ELECTRONIC FUEL INJECTION (continued)

S12	Motronic relay	S17b	CEM control unit black connector
S12a	Fuel pump Motronic relay	S18	Throttle angle sensor
S12b	Motronic relay with diode	S19	Hall sensor
S12c	Timing variator device Motronic relay	S20	Deton sensor
S12d	Auxiliary Motronic relay	S21	Throttle actuator
S13	Timing sensor	S22	Injector terminal
S14	Rev sensor	S23	Injector resistor
S15	Timing variator device	S24	Injector terminal board
S16	Altitude compensation device	S25	Autodiagnosis connector
S17	CEM control unit	S26	Injection system
S17a	CEM Control unit white connector	S27	Lambda sensor resistance
		S28	Injection control relay
		S29	Minimum adjustment actuator

APPENDIX

B63	Cruise control "OFF" - "RESUME" switch	G206	Instrument connector for antiskid and seat belt warning lamp signals (automatic transmission)
B64	Cruise control "SET ACC" - "SET DEC" switch	G207	Intermediate instrument connector for antiskid and seat belt warning lamp signals (automatic transmission)
G203	Intermediate dashboard connector for transmission oil level signal	H37	Pushbutton ON clutch pedal
G204	Intermediate dashboard connector for antiskid and seat belt warning lamp signals	I59	Cruise control "OFF" switch auxiliary relay
G205	Intermediate dashboard connector for antiskid, seat belt and transmission oil level warning lamp signals	M14	Cruise control actuator
		N39	Cruise control unit